



## Route 14 South and Central Wales and Borders

### Today's route

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

- the 'North and West' section between Crewe and Newport linking borders market towns with the county towns of Shrewsbury and Hereford, and serve multiple local demands as well as fulfilling an inter-regional role, linking the North West and South Wales, in the manner of a secondary main line (14.01 and 14.02).

Shrewsbury acts as the 'hub' for three other sections:

- the 'Cambrian Lines' running westwards to Machynlleth and Aberystwyth, and around the coast to Barmouth and Pwllheli (14.06 and 14.08);
- the line north-westwards through Wrexham to Chester (14.03, 14.04 and 14.05) ;
- the 'Heart of Wales Line' southwestwards, from Craven Arms to Llanelli (14.07 and 14.09).

The fifth component runs westwards from Swansea, beyond the end of the Great Western Main Line, to Carmarthen and Milford Haven (14.12), with two branches:

- from Whitland to Tenby and Pembroke (14.10), and;
- a short section beyond Clarbeston Road to Fishguard Harbour (14.11).

14 14

### Route context

The majority of this extensive route lies in the rural counties of Wales and its role and usage thus reflects the demographic features of numerous small towns and generally low population densities. Services operate beyond the confines of the route such that most components have a link to the primary network whether at Crewe, Birmingham or Cardiff. The bulk of today's traffic is passenger.

A Wales Rail Planning Assessment will be undertaken in 2006, to be followed by a Wales RUS, to cover all of Wales, and which will also take account of the considerable portion of route in the English border counties of Herefordshire, Shropshire and Cheshire.



### Passenger and freight demand

Much of the route is rural in nature, and passenger traffic patterns vary considerably between the sections, with considerable long-distance flows between the West Midlands and mid-Wales over the Cambrian Lines which reflect through service provision as well as competitive journey times relative to roads across mid-Wales. Road competition is more acute in west Wales where the M4 and its extensions often offer more direct journey opportunities than by train as the terminal stations at Swansea and Carmarthen necessitate time-consuming reversals. Much passenger demand to and from the rural parts of Wales is naturally long-distance in nature, and rail reduces peripherality in the more remote areas by giving direct links to the capitals of both Wales and England as well as to the West Midlands and the north-West.

West of Shrewsbury, the Cambrian Lines serve a largely rural catchment, and nearly all services run through from Birmingham New Street to Aberystwyth, with an element of through running to and from the Cambrian Coast section between Dovey Junction and Pwllheli, where summer traffic levels still make strengthening of trains necessary. Schools traffic on the Cambrian Coast line (to Harlech, from either direction) drives the timetable on this single-track section which has few passing loops. Passenger volumes on the Heart of Wales Line reflect the much lower frequencies with less of a pattern to demand, and a very large number of halts serving small communities which in some cases have practically no other public transport alternative. 'Heart of Wales' Line services generally run throughout between Swansea, Llanelli (where reversal takes place) and Shrewsbury, calling at all of the stations and halts, in some cases only on demand. The highly scenic character of much of the route is a factor in the promotion of rail travel for leisure in this part of Wales, along with significant seasonal fluctuations in demand in the popular holiday areas along the Cambrian Coast and around Tenby.

West of Swansea, the majority of local train services are provided by two-car or single vehicle units timed to connect with London services, supplemented (between Swansea and Carmarthen) by the recently extended Manchester to Cardiff services to cater for demand on the more urban part of this section. The section beyond Clarbston Road to Fishguard Harbour is used solely by local, twice-daily trains running in connection with the Stena ferry service from Fishguard to Rosslare in southern Ireland.

Freight volumes have generally been in decline since the 1980's, and no freight terminals exist on either the Cambrian Lines or on the 'Heart of Wales Line'. Steel traffic from the Llanwern works on the GWML in south Wales passes over the 'North & West' route (between Newport and Crewe) via Shrewsbury and Wrexham (for Shotton). The Wentlooge intermodal terminal (to the east of Cardiff) likewise generates traffic over the route for the north-West and Scotland. In west Wales the oil refineries near Milford Haven generate long-distance flows to the home counties. No scheduled freight services operate on either the Cambrian lines or the Heart of Wales line except between Morlais Junction (south of Pontarddulais) and Llanelli.

### Current services

All passenger services are provided by Arriva Trains Wales, except in west Wales where one First Great Western return train per day to London Paddington commences west of Swansea, at Carmarthen, and a summer Saturday service operates between London Paddington and Pembroke Dock, to address seasonal demand fluctuations. From December 2005, the 'Standard Pattern Timetable' has led to additional through journey opportunities between north and south Wales via Wrexham and Hereford, created partly by joining up previously separate north Wales coast and Chester-Shrewsbury services and partly by additional mileage south of Shrewsbury, to give a base frequency of three trains per two hours. Another feature of the 'Standard Pattern Timetable' has been the extension of Cardiff-Manchester services through to Carmarthen, to give improved spacing of departures over the GWML section between Cardiff and Swansea jointly with FGW

London-Swansea hourly frequencies to better cater for passenger demand. Whilst significant numbers of shorter distance journeys are made to the county towns of Shrewsbury and Hereford, as well as an element of commuting to Cardiff from Abergavenny and Cwmbran, longer-distance journeys are important and reflected in connectational opportunities at Crewe and at Newport.

Frequencies vary from basically hourly (such as Manchester to Cardiff & Carmarthen, and Shrewsbury to Chester) to basically two hourly (Holyhead/Bangor to Cardiff via Wrexham, Shrewsbury to Crewe local services, Shrewsbury to Aberystwyth, Swansea to Milford Haven/Pembroke Dock) and less than two-hourly or irregularly-spaced (Cambrian Coast section, Heart of Wales line, and Swansea to Fishguard Harbour boat-trains).

Figure 1 shows the current level of service on the route.

**Figure 1** Current train service level (trains per hour)

Regional/Rural Services	Trains per hour each
Swansea – Milford Haven	1 every 2 hours
Swansea – Pembroke Dock	1 every 2 hours
Swansea – Carmarthen	1 every 2 hours
Swansea – Shrewsbury (via Heart of Wales Line)	4 trains per day
Carmarthen – Manchester Piccadilly (via Cardiff)	1
Cardiff – Holyhead	1 every 2 hours
Shrewsbury – Crewe (stopping services)	1 every 2 hours
Shrewsbury – Chester	1
Shrewsbury – Aberystwyth	1 every 2 hours
Machynlleth – Pwllheli	1 every 2 hours

**Current traffic**

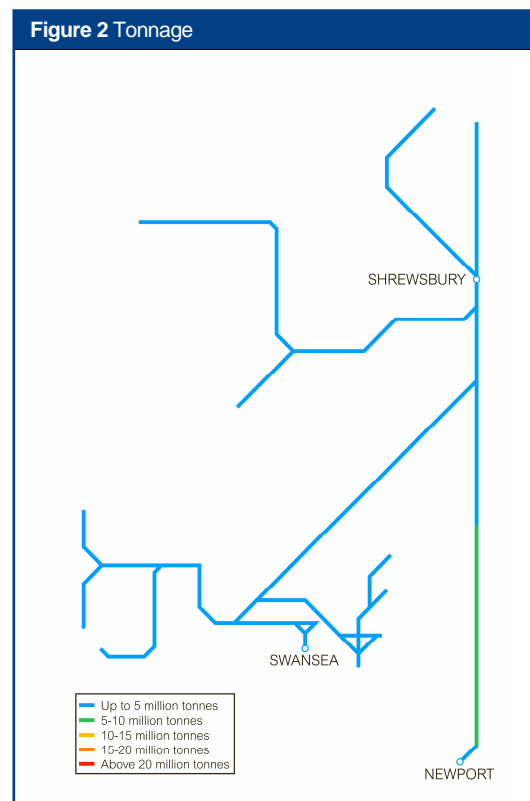
Traffic on much of the route is handled by standard 90 mph 2 car train formation, whilst 75 mph types also appear and the quieter services are often sustained by single vehicles.

Creation of the all-Wales franchise has led to slightly greater variety of traction capacity becoming available where necessary, and which can assist in meeting demand more flexibly, in the form of 2 car and 3 car types.

These are being introduced progressively on the busiest section between Manchester and Cardiff, which has experienced most traffic growth on hourly services which tend towards more of an inter urban rather than purely rural nature. Some commuting occurs on the Shrewsbury to Chester line, plus colleges and schools flows, in either direction, where services have been developed in recent years to basically hourly frequencies.

Figure 2 shows the tonnage levels on the route.

Traffic volumes are summarised in Figure 3.

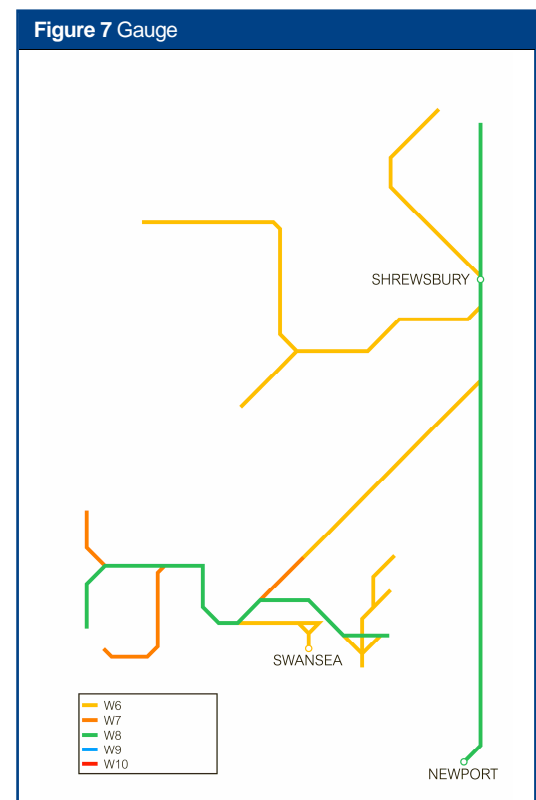
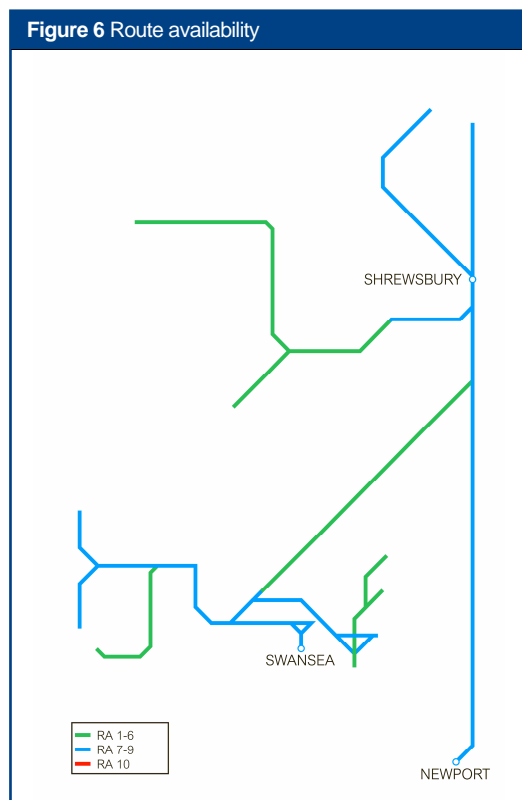
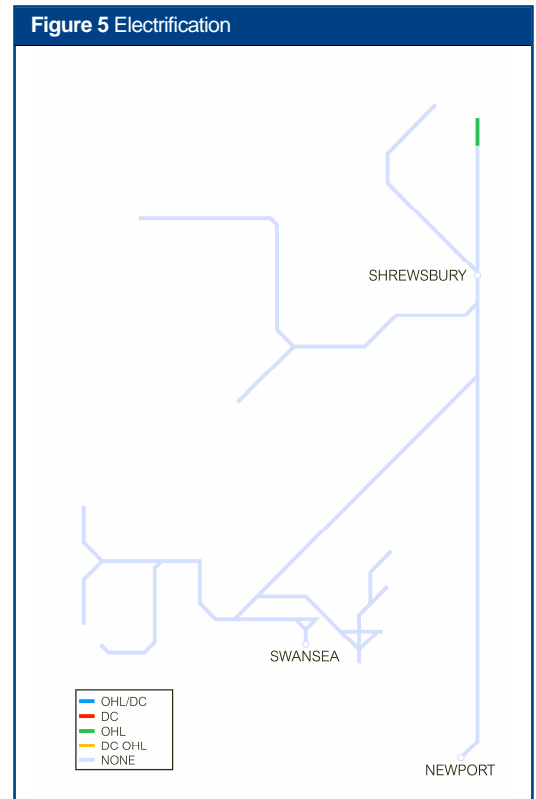
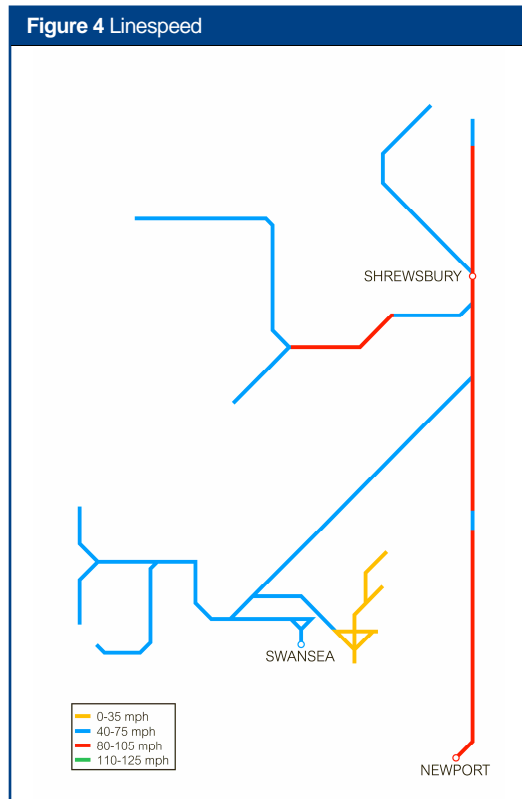


**Figure 3 Current use**

	Passenger	Freight	Total
Train km per year (millions)	8	1	9
Train tonne km per year (millions)	756	865	1622

**Current infrastructure capability**

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



**Figure 8** Current train service level (peak trains per hour)

Route Section	Peak trains per hour
'North & West', Leominster to Hereford	2
'Cambrian Lines', Newtown to Shrewsbury	1
Wrexham to Chester	1

**Figure 9** Current PPM MMA (2005/06)

TOC	MAA	As at period
Arriva Trains Wales	80.4%	10

### Current capacity

Between Newport & Crewe or Wrexham, and beyond Swansea to west Wales, capacity is sufficient for existing volumes and the gradual reduction in freight services has tended to reduce any constraints on catering for passenger demand. On the single-track Cambrian Lines section, the limited number of passing-loops influences the availability of paths, but other factors off the route – principally pathing over the busy WCML and platform availability at Birmingham New Street – likewise drive overall service provision. The single track 'Heart of Wales' line between Craven Arms and Pontarddulais has numerous passing loops, not all of which are required to sustain existing service frequencies, but which provide a contingency in the event of out of course running on this long section.

Figure 8 shows the peak hour train service level for key sections of the route.

### Current performance

Figure 9 shows the current PPM for the main TOC running along the route.

The Great Western Joint Board generally meets at three-monthly intervals and comprises representatives of Network Rail, all TOCs using Western route infrastructure, DfT and ORR, and focuses particularly on performance issues at a strategic level.

The Network Rail Route Director, in conjunction with the Territory Maintenance Director, has set up the Western Accelerated Recovery (WAR.) project to target poor performing assets and implement 'quick win' remedial action.

To improve operational management an Integrated Control Centre at Cardiff has been introduced and a new signalling centre for South Wales is proposed.

We are embarking on a programme to remove Temporary Speed Restrictions, imposed due to the poor condition of track, by the end of March 2009.

Delays to the increased frequency of services west of Swansea are compounded when waiting passage across the 5 mile single line section between Cockett and Duffryn. Similar delays occur over the 10 mile single line section between Wrexham North Junction and Saltney junction (near Chester).

Delays on the Cambrian Line are often imported from off route and due to the length of single line sections, service recovery is difficult.

### Future requirements

#### Strategic direction

The Welsh Assembly Government will be undertaking the Wales Rail Planning Assessment during 2006, which will inform the Route Utilisation Strategy for Wales. We will start baselining work for the RUS in early 2007.

Sewta (the South East Wales Transport Alliance) is a consortium of ten unitary authorities and works in partnership with the Welsh Assembly Government and Network Rail and the transport operators towards the development of transportation strategies for the region, and coordinates third-party enhancement schemes on the route. There is continuing interest in providing greater capacity and reduced journey times, to offer improved frequencies as an attractive alternative to road to both Newport and to Cardiff from the Abergavenny & Cwmbran corridor and thereby seeking to actively increase rail market share. During 2005 a strategic review of Sewta rail policy was carried out in order to create a framework for future investment over the period 2009-2018. The review took account of existing network utilisation and performance issues whilst considering how growth trends might trigger the need for selective enhancement and its coordination with the emerging signalling renewals plans for the Newport area and the southern end of the 'North & West' section to Hereford, Shrewsbury and Crewe.

The Welsh Assembly Government is assessing the potential for additional passing loops on the Cambrian Line to facilitate the introduction of an enhanced train service and improve performance

### Future demand

The Wales Spatial Plan (published in 2004) recognised the importance of the East-West corridors for the movement of people and goods across Wales, and called for "... progressive improvements to North-South links within Wales and through England, which are important for connecting Wales as a country". Development by the Welsh Assembly Government of a Wales Transport Strategy was envisaged for 2005, and it is intended that transport funding will be used to further the aims of the Welsh Spatial Plan. Specific policies mentioned include some decentralisation of Welsh Assembly Government jobs to Aberystwyth, and (in the Central Wales region) enhancement to rail services through direct support, although it was noted that the area's relatively low population density makes substantial improvements to external links uneconomic.

As the hub of five different sections of route linking mid-Wales with England, Shrewsbury station is clearly fundamental in enabling the levels of interchange that are sought to be achieved. The West Midlands RUS (published in 2005) noted that there might be a future move towards provision of a number of Shrewsbury to London through services, as well as identifying a need to improve performance between Shrewsbury, Wolverhampton and Birmingham New Street. Change to platforming requirements at Shrewsbury station for this corridor would have an impact upon its growing 'hub' role. A further factor which would impact upon the operation of Shrewsbury station would be the effect of line-speed raising between Wolverhampton and Shrewsbury, also identified in the West Midlands RUS.

There is continued interest from the Welsh Assembly Government in an improved frequency of services on the Cambrian Line from Aberystwyth to Shrewsbury and Birmingham, and opportunities to enhance the route in conjunction with the introduction of ERTMS are under consideration. It is recognised that it will be for the Welsh Assembly Government to contribute towards the additional infrastructure (i.e. passing-loops) that would be needed to permit improved frequencies as well as to underwrite any additional subsidy needed by the train-operators to for increased resource commitments.

The introduction (in December 2005) of the Standard Pattern Timetable (SPT) has given improved frequencies on those sections which have been experiencing growth, to better cater for predicted demand, but based on existing infrastructure. Taking into account these targeted increases in service provision on key sections of the route (e.g. between north Wales and south Wales, and between Swansea and Carmarthen) only recently introduced as a consequence of the December 2005 SPT, we would expect normal rates of growth only.

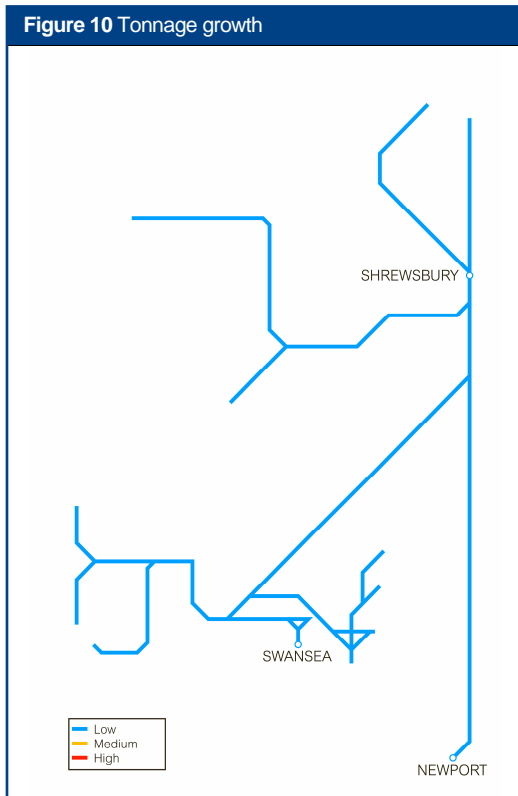


Figure 10 indicates the forecast percentage change in tonnage to 2015.

#### Future capability

The Sewta Rail Strategy Study carried out in 2005, recommended the introduction of a half hourly local service between Cardiff and Abergavenny. To facilitate this high frequency service a turn back facility will be required at Abergavenny station.

The Chester – Shrewsbury Rail Partnership, a consortium of local authorities, is commissioning a study to look at passenger growth for that route and considering new stations to cater for demand.

#### Fragile routes

Network Rail engineers have identified a set of 'fragile routes' across the country where the addition of any further loco hauled traffic would have a significant impact on the residual life of track and/or structures.

The rail freight industry has recently provided to Network Rail a set of 10 year traffic forecasts, and we are presently assessing their implications. The key route section within this route that has been identified as a fragile route and has clearly defined additional tonnage/ train numbers projected by the industry is the Heart of Wales Line (Llandeilo Junction to Pantyffynnon).

#### Future capacity

Arriva Trains Wales' Standard Pattern Timetable, which commenced in December 2005, introduced long distance services between west Wales and the north west of England, via Cardiff. This and higher frequency local services west of Swansea have increased capacity utilisation between there and Llanelli, and puts pressure on the 5 mile long single line section between Cockett and Duffryn, which traverses Loughor viaduct. Loughor viaduct is planned to receive major repairs in 2010 and will be exploring the potential for re-doubling this section of single line. Consequentially, we shall be reviewing the usage of the Swansea District Line, west of Llandarcy, which requires major structural investment over the next five years.

To the north of the route the 10 mile section of single line between Wrexham and Saltney Junction (south of Chester) is a restriction on service growth. The Chester – Shrewsbury Rail Partnership is reviewing passenger demand and considering new stations and part redoubling of the single line section between Wrexham North Junction and Saltney Junction to accommodate growth in this area.

We shall be maximising the opportunities presented by future major resignalling schemes to reduce signalling headways where possible to improve capacity and performance.

**Figure 11** Forecast reduction in delay minutes

	2006/07	2007/08	2008/09
% reduction in delay minutes	6%	12%	19%

**Figure 12** Forecast PPM MAA

TOC	2006/07	2007/08	2008/09
Arriva Trains Wales	83.6%	84.5%	85.2%

### Future performance

We are embarking on a programme to remove Temporary Speed Restrictions, imposed due to the poor condition of track, by the end of March 2009.

In addition to continued improvement in asset reliability, a major focus of attention going forward is the work necessary to devise more robust train timetables. Network Rail is working closely with Arriva Trains Wales to gain operational experience of its Standard Pattern Timetable introduced in December 2005 and to support and improve its performance. Resource plans that are robust in terms of recovery from incidents are being developed.

Figure 11 shows the forecast reduction in Network Rail delay minutes compared with 2005/06.

Figure 12 shows the forecast PPM for the main TOCs running along the route.

### Engineering access

For engineering access purposes the Newport-Crewe route divides broadly into three sections. On the southernmost and middle sections, between Newport (Maindee West Junction) and Hereford and between Hereford (Shelwick Junction) and Shrewsbury (Sutton Bridge Junction), midweek nights access can be granted provided that this does not conflict with periods when the route is required to handle traffic diverted from the West Coast/Cross Country route between Crewe, Wolverhampton, Birmingham and Gloucester. On the northernmost section, between Shrewsbury (Crewe Bank) and Crewe (Gresty Lane), possessions require individual arrangements.

Between Shrewsbury (Crewe Junction) and Chester (Saltney Junction), midweek nights access can be granted.

On the Cambrian lines, midweek nights access can be granted, based around start-up times of empty stock workings from Machynlleth depot. Around the Shrewsbury station area, possessions require individual arrangements. Investigations and trials took place during 2002/03 to assess whether long-standing restrictions on the use of locomotives to haul engineering trains across the Barmouth viaduct could be eased, to permit materials to be

brought in by rail for use on sea defence works on the most exposed sections of the coastal section of the Cambrian line north of Barmouth. These were successful, and this will in future enable engineering works to be undertaken more cost-effectively.

The west Wales section divides broadly into two sub-sections. Between Swansea and Llanelli, midweek nights access can be granted provided that this does not conflict with periods when the Swansea District line (between Briton Ferry and Llandeilo Junction via Llangyfelach) is under occupation. Beyond Llanelli, midweek nights access can be granted, with single line working on the double track section to Clarbston Road (provided that the night-time Fishguard boat-train can still be passed).

On the Heart of Wales section (north of Morlais Junction through to Craven Arms), ample midweek nights access is available.

### Opportunities and challenges

We recognise that the low levels of growth forecast for the more rural parts of the route may well increase depending on the success of the recently introduced Standard Pattern Timetable.

We believe that the solution to passenger growth and future capacity requirements for the sections of route with a higher capacity utilisation can be met by a combination of several initiatives:

- train lengthening, and where appropriate supported by platform lengthening;
- incremental enhancements (which can be delivered as improvements to planned track, structures and signalling renewals) and certain limited stand alone enhancements. These have the potential to improve performance (necessary for growth), enable specific increases in train paths and facilitate timetable restructuring, and include:
  - potential redoubling of the Cockett to Duffryn single line;
  - rationalisation of the Swansea District Line west of Llandarcy;
- revised signalling arrangements between Little Mill and Abergavenny as part of the Newport Area Signalling Renewal;

- potential redoubling of the Wrexham North Junction to Saltney Junction single line; and
- additional passing loops on the Cambrian Line.

### Delivering future requirements

#### Expenditure

The age of rail and sleepers on the route is amongst the highest on the national network and varies between 30 and 40 years old and to address this we are implementing a track renewals strategy which matches the traffic usage of the route. This will include targeted renewals and ballast cleaning on the most heavily used sections

and patch repairs and renewals to maintain stable infrastructure on the more rural lines.

Figure 13 shows the planned level of expenditure on renewals on this route over the next three years. The most significant individual renewal items are outlined in the individual asset sections, which follow. However, the precise timing and scope of renewals remains subject to review to enable us to meet our overall obligations as efficiently as possible consistent with reasonable requirements of operators and other stakeholders.

<b>Figure 13 Forecast expenditure</b>			
<b>£m (05/06 prices)</b>	<b>2006/07</b>	<b>2007/08</b>	<b>2008/09</b>
<b>Renewals</b>			
<b>Track</b>			
Plain line	9	8	7
S&C	2	2	2
<b>Track Total</b>	<b>10</b>	<b>9</b>	<b>9</b>
<b>Civils</b>			
Underbridges	3	3	4
Overbridges	1	0	–
Bridgeguard 3	1	1	–
Footbridges	–	0	0
Earthworks	1	1	2
Tunnels	0	0	–
Coastal & estuary defence	1	1	1
Major structures	0	–	1
<b>Civils Total</b>	<b>6</b>	<b>7</b>	<b>9</b>
<b>Signalling</b>			
Minor works/other	5	2	0
<b>Signalling Total</b>	<b>5</b>	<b>2</b>	<b>0</b>
<b>Telecoms</b>			
Concentrators: small	0	0	–
Other	–	0	–
<b>Telecoms Total</b>	<b>0</b>	<b>1</b>	<b>–</b>
<b>Plant and machinery</b>			
Fixed plant	0	1	0
Point heating	1	0	0
<b>Plant Total</b>	<b>1</b>	<b>1</b>	<b>0</b>
<b>Operational property</b>			
Stations	–	0	–
Lineside buildings	0	–	–
<b>Operational property Total</b>	<b>0</b>	<b>0</b>	<b>–</b>
<b>Total Renewals</b>	<b>23</b>	<b>19</b>	<b>18</b>

Enhancements (funded by)			
Network Rail			
ERTMS – Cambrian	11	24	22
Network Rail Total	11	24	22
Welsh Assembly			
Other	0	–	–
Welsh Assembly Total	0	–	–
Other Third Party			
Other	0	0	–
Other Third Party Total	0	0	–
Total Enhancements	11	24	22

**Figure 14** Forecast volumes

	2006/07	2007/08	2008/09
<b>Track</b>			
Rail (km)	16	15	15
Sleepers (km)	14	13	13
Ballast (km)	14	14	14
<b>Switches &amp; crossings (no)</b>			
Complete renewal	9	10	10
Abandonment	4	5	5
<b>Civils</b>			
Underbridges (square metres)	1,303	2,474	2,847
Overbridges (square metres)	292	711	–
Footbridge (square metres)	–	75	29
Embankments (square metres)	6,460	9,150	10,250
Tunnels (square metres)	551	10	–
Culverts (square metres)	–	–	–
Coastal & estuary defence (linear metres)	495	823	40
Major structures (square metres)	–	–	–
<b>Telecoms</b>			
Concentrators: small (no)	–	6	–
<b>Plant and machinery</b>			
Point heating (point end)	10	6	18

The planned volume of renewals is detailed in Figure 14.

It should be noted that in order to manage the deliverability of our Civils, Signalling & Electrification plans we have included an element of overplanning 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.

#### **Maintenance**

Figure 15 shows the planned level of expenditure on maintenance on this route over the next three years.

**Figure 15** Forecast expenditure

£m (05/06 prices)	2006/07	2007/08	2008/09
Maintenance	25	23	21

## Infrastructure investment

The following table highlights committed schemes that are planned for completion in the financial year shown.

Project	Scope	Enhancement or output change	Main asset type(s)	Third Party funding	GRIP Stage	Completion Year
A	Track Renewals Plain line track renewals at Caerleon, Stokesay and Decoy	Improved asset reliability	Track	None	1	2006/07
B	Track Renewals Plain line track renewals at Penpergwm, St Devereux and Rhosymedre	Improved asset reliability	Track	None	1	2007/08
C	Traeth Bach viaduct Strengthening works	Improved asset reliability	Civils	None	1	2007/08
D	Tywyn Sea Defence strengthening	Improved asset reliability	Civils	None	4	2007/08
E	Loughor viaduct Strengthening works	Improved asset reliability	Civils	None	3	2008/09
F	Croes Newydd North Fork Signal box renewals	Improved asset reliability	Signals	None	1	2008/09
G	Pembrey Signalbox renewals	Due to poor condition, controls to be included in Port Talbot Area Signalling Renewal Phase II	Signals	None	1	2009
H	Little Mill – Abergavenny Conversion from track circuit block signalling to axle counters	Improved journey times	Signals	None	3	2009

The following table highlights uncommitted schemes under development.

**Figure 17** Infrastructure investment under consideration

Project	Scope	Enhancement or output change	Main asset type(s)	Status
E	Cockett – Duffryn single line Reinstate double track	Increased capacity and performance	Track, civis and signals	Under consideration, linked to Loughor viaduct strengthening works
E	Swansea District Line Review usage west of Llandarcy	Reduced capacity	Track, civis and signals	Under consideration, linked to Cockett – Duffryn redoubling
H	Caerleon New station	2 platform station	Civis	Proposed under Sewta rail strategy
H	Abergavenny Turn back facility	Capacity enhancement to facilitate half hourly train service	Track, signals	Proposed under Sewta rail strategy
I	Shrewsbury platform 3 Signalling and re-alignment of track to access platform	Direct access to platform 3 from the Craven Arms direction	Track, civis and signals	Under consideration
I	Abbey Foregate Reduce double track loop to single track	Capacity adjustment to match usage	Track	Under consideration
J	Cambrian Lines Additional passing loops	Facilitate hourly train service	Track, signals	Under consideration. ERTMS pilot route
K	Wrexham North Junction – Saltney Junction single line Reinstate part double track (4 miles)	Increased capacity and performance	Track, civis and signals	Under consideration

## Non infrastructure developments

The table below shows potential developments which do not involve changes to the infrastructure.

**Figure 18** Timetable development

Description	Key issues	Actions or options being developed	Benefits	Target timetable implementation
Cambrian line service enhancement	Increase in frequency to hourly service	Timetable review	Enhanced service frequency	2008

## Appendix

**Figure 19** Strategic route sections

Predominant aspect recorded (secondary aspects recorded in brackets) ELR is Engineers Line Reference and RA is Route Availability												
SRS	SRS Name	ELR	Classification	Funding	Community Rail	Freight Gauge	RA	Speed	Electrification	Signalling Type	Signalling Headway	No of Tracks
14.01	Newport – Pandy (North and West Route, Wales)	MAI, HNL1	Secondary	DfT	No	W8	8	80	none	AB	(AB)	2
14.02	Pandy – Crewe (North and West Route, England)	SYC, WSJ, SHL, HDC, HNL1	Secondary	DfT	No	W8	8	90	none	AB	(AB)	2
14.03	Shrewsbury – Chester South (England)	WSJ	Secondary	DfT	Yes	W6A	8	70	none	AB	(AB)	2
14.04	Shrewsbury – Chester Central (Wales)	WSJ	Secondary	DfT	Yes	W6A	8	60	none	AB	(AB)	2
14.05	Shrewsbury – Chester North (England)	WSJ	Secondary	DfT	Yes	W6A	8	60	none	TCB	(AB)	1

**Figure 19** Strategic route sections

Predominant aspect recorded (secondary aspects recorded in brackets) ELR is Engineers Line Reference and RA is Route Availability												
SRS	SRS Name	ELR	Classification	Funding	Community Rail	Freight Gauge	RA	Speed	Electrification	Signalling Type	Signalling Headway	No of Tracks
14.06	Cambrian Lines (Wales)	SBA,DJP	Rural	DfT	Yes	W6A	5	80	none	RETB	(n/a)	1
14.07	Craven Arms – Knighton (Heart of Wales line, England)	CWL1	Rural	DfT	No	W6A	5	60	none	NSKT	(n/a)	1
14.08	Sutton Bridge Jn – Border (Weishpool)	SBA	Rural	DfT	No	W6A	7	75	none	RETB	(n/a)	1
14.09	Llanelli – Knighton (Heart of Wales line, Wales)	CWL1,CWL2, VOT,LLA	Rural	DfT	Yes	W6A	5	60	none	NSKT	(n/a)	1
14.10	Pembroke Dock – Whitland Jn	PEM	Rural	DfT	No	W7	6	50	none	OTW	(AB)	1
14.11	Fishguard – Clarbeston Road Jn	CRL, NPF	Rural	DfT	No	W6A	7	55	none	OTW	(AB)	1
14.12	Swansea – Milford Haven	SWL,SWM2, CAN, CNW	Secondary	DfT	No	W8	8	75	none	TCB/AB	6	2
14.13	Freight Lines (England)			DfT	No				none			
14.14	Freight Lines (Wales)			DfT	No				none			

**Figure 20** Capacity and operational constraints

- Ⓐ Cockett – Duffryn: Single line limits capacity
- Ⓑ Wrexham North Junction – Saltney Junction: Single line limits capacity

**Figure 21** Other issues on the route

- ① Cambrian line: ERTMS test route
- ② Tywyn Sea Defences: require constant monitoring