

*Delivering a better railway  
for a better Britain  
Route Specifications 2016  
Wessex*



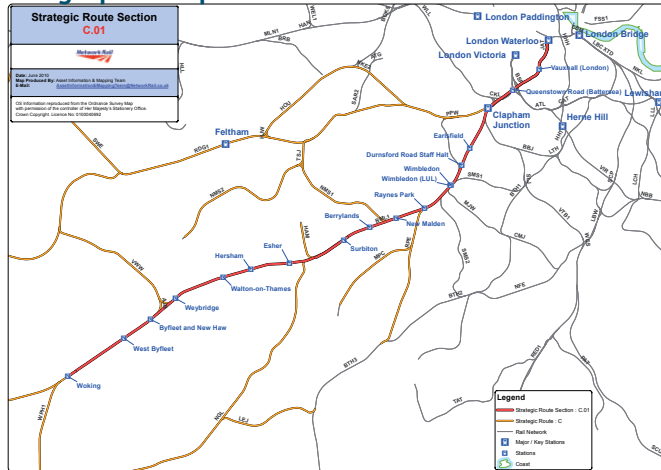
## Route C: Wessex

SRS C.01 Waterloo – Woking	03
SRS C.02 Woking – Basingstoke	07
SRS C.03 Basingstoke – Southampton	11
SRS C.04 Southampton – Weymouth	15
SRS C.05 Lymington Branch	19
SRS C.06 Woking – Portsmouth	23
SRS C.07 Main Line Suburban Lines	27
SRS C.08 Redhill – Guildford	32
SRS C.09 Guildford – Wokingham	36
SRS C.10 Isle of Wight	40
SRS C.11 Cosham to St Denys/Eastleigh	44
SRS C.12 Inner Windsor Lines	48
SRS C.13 Outer Windsor Lines	53
SRS C.14 Basingstoke – Salisbury	58
SRS C.15 Salisbury – Exmouth Junction	62
SRS C.16 Redbridge/Eastleigh – Salisbury	66
SRS C.17 Brookwood – Alton	70
SRS C.99 Other Freight Lines	74
<b>Interface with other routes</b>	
SRS J.09 Reading - Basingstoke	78
SRS K.05 Castle Cary - Dorchester	82
<b>Glossary</b>	86



# SRS C.01 Waterloo – Woking

## Geographic map



## Route specification description

The line between London Waterloo and Woking forms part of the South West Main Line (SWML) and covers a distance of approximately 24.5 miles. Between London Waterloo and Clapham Junction there are eight tracks, made up of four Windsor lines, two Main Slow lines and two Main Fast lines. This reduces to just four tracks beyond Clapham Junction as far as Woking, made up of an Up and a Down Fast line and an Up and a Down Slow line. At Wimbledon there is grade separation to transfer the Up Slow line over the Fast lines. The entire route section is DC electrified throughout.

The route is characterised by a large number of stations owing to the suburban nature of the area. The high number of stations along the route means journey times for stopping services are relatively slow considering the distance in miles.

The route section and its stations are illustrated in the adjacent map. Service frequency and journey times are listed in the tables associated with this Strategic Route Section (SRS).

There are currently twenty domestic platforms at London Waterloo, including Platform 20 (part of Waterloo International Terminal, WIT) which was brought into domestic use in Control Period 4 (CP4). The remaining four platforms in WIT will be brought into operational use in Control Period 5 (CP5) as part of the Wessex Capacity Programme.

In terms of freight services there are intermodal and aggregate flows that operate from Woking or beyond leaving this section at Byfleet Junction to join the Chertsey Line (including the Gypsum train via Clapham Junction). There are also aggregate flows that operate from Tolworth which briefly traverse this section.

Stations that are operated as part of the Main Suburban network, those with platforms on the Slow lines, have been extended to accommodate 10-car trains as part of the CP4 and CP5 train lengthening programme. These will operate a full 10-car service following the completion of the Wessex Capacity Programme and the introduction of new Class 707 rolling stock.

The Wessex Route Study, published in August 2015, forms part of the Long Term Planning Process (LTPP) and has suggested a number

of choices for addressing capacity and connectivity on this SRS. These include strengthening of all remaining Main Line services to full length; further extension of Main Suburban services to 12-car (or Crossrail 2 as an alternative); and increasing the number of services operating into London Waterloo. These will be further developed as appropriate in subsequent control periods, more details can be found in the Wessex Route Study [here](#).

Planned and proposed infrastructure investments are detailed in [Table 5.0](#). The most significant scheme in the current Control Period (CP5) is the lengthening of Platforms 1 to 4 at London Waterloo and opening WIT Platforms 21 to 24 for domestic use which both form part of the Wessex Capacity Programme. As previously mentioned this will allow Main Suburban services to operate as 10-car trains.

The Wessex Capacity Programme will deliver station pedestrian capacity schemes in CP5 at Surbiton and Vauxhall stations. The implementation of these schemes will improve pedestrian flows through the stations and include staircase works.

The Wessex Capacity Programme will also deliver several outputs in CP6 including changes to the track layout at Queenstown Road to facilitate additional capacity on the Windsor Lines and efficient operation of Empty Coaching Stock (ECS) in and out of Clapham Yard. There will also be pedestrian capacity schemes at Clapham Junction and Wimbledon.

Other schemes specified in the CP5 Delivery Plan include the scheme to provide 10-car capability on services between Reading and London Waterloo, and the associated power supply upgrade. Combined with the Wessex Capacity Programme this will result in a full 10-car capable suburban network by the end of CP5.

This SRS will also see a number of targeted renewals delivered throughout CP5. The National Operating Strategy will migrate the control of all signalling, across the whole Wessex Route, to the Basingstoke Rail Operating Centre (ROC). This programme will be progressed through CP6 and beyond as per the national strategy.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on this SRS.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
<b>Line of route description</b>	SW100: Waterloo to Clapham Junction SW105: Clapham Junction to Weymouth			
<b>Section start</b>	Waterloo			
<b>Section end</b>	Woking			
<b>Route availability</b>	4,8	4,8	4,8	
<b>Gauge</b>	W6, W8, W9	W6, W8, W9	W6, W8, W9	Consideration should be given to the feasibility of providing passive provision for future AC electrification.
<b>Signals</b>	Track circuit block	Track circuit block	European Train Control System (ETCS)	ETCS subject to roll out programme
<b>Speed</b> <a href="#">See Sectional Appendix for detailed speed profiles</a>	Fast: 90mph (short section of 100mph north of Woking in the Up direction only) Slow: 90mph	Fast: 90mph (short section of 100mph north of Woking in the Up direction only) Slow: 90mph	Raise linespeed to highest possible with ETCS  Raise linespeed to highest possible with a change to AC electrification  Raise linespeed to highest possible with a change in rolling stock	ETCS subject to roll out programme  Permanent Speed Restrictions (PSRs) should be removed where efficient to do so as part of a renewal
<b>Electrification</b>	750V dc third rail throughout	750V dc third rail throughout	750V dc third rail or 25kV overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
<b>Typical journey time (minutes)</b>	Woking - Waterloo AM Peak Fast: 28 Off-peak Fast: 27 AM Peak Slow: 54 Off-peak Slow: 49	Woking - Waterloo AM Peak Fast: 28 Off-peak Fast: 27 AM Peak Slow: 54 Off-peak Slow: 49	Woking - Waterloo AM Peak Fast: 26 Off-peak Fast: 25 AM Peak Slow: 52 Off-peak Slow: 47	
<b>No. of trains per hour</b>	Arriving at Waterloo (including Windsor Line) AM Peak: 58 Off-peak: 43	Arriving at Waterloo (including Windsor Line) AM Peak: 60 Off-peak: 43	Arriving at Waterloo (including Windsor Line) AM Peak: 75 Off-peak: 47	Figures shown are in a scenario where Crossrail 2 is not implemented. In a Crossrail 2 scenario figures would be as follows: AM Peak: 65 (plus an additional 20 Crossrail 2 services as far as Wimbledon only) Off-peak: 47

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Byfleet & New Haw – Woking			
<b>Daily paths in one direction (as per WTT)</b>	6	Intermodal: expected to grow by 6% per annum (Freight Market Study) Aggregates:	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

There are no level crossings in this route section.

## Committed infrastructure investment in Control Period 5 (2014 – 2019)\*

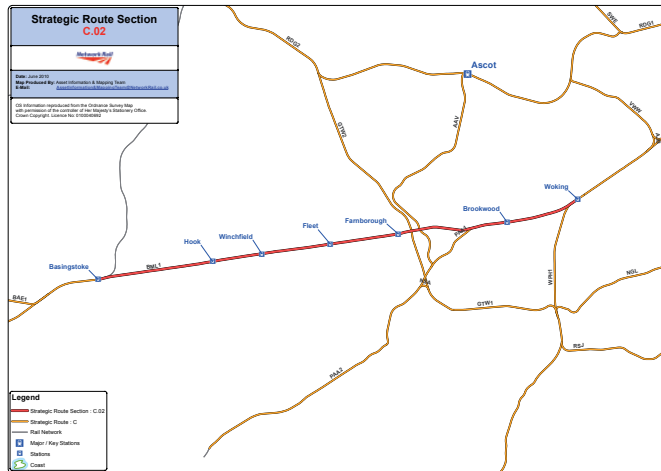
Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Wessex Capacity Programme	Platform lengthening at London Waterloo Platforms 1-4, integration of Waterloo International Terminal for domestic use, and other associated works to facilitate increased capacity on the Wessex Route	BML1 RDG1 JAT	CP5 project	Improved passenger flow, longer trains and a more flexible layout		In development
Reading to London Waterloo 10-car capability	Platform lengthening and other associated works	RDG1 RDG2 JAT	CP5 project	10-car capability		In development
CP5 Traction Power Supply Upgrade	To provide sufficient traction power supply infrastructure to facilitate the introduction of 10-car Reading to Waterloo services	RDG1 RDG2 AAV JAT	CP5 project	Upgraded power supply infrastructure		In development
South London HV (Wimbledon) Grid Upgrade	To expand the capability of the Wimbledon grid traction power system to facilitate the reliable operation of future capacity	RDG1 BML1	CP5 project	Improved capability and reliability of traction power system		In development
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

## Proposed infrastructure investment in Control Period 6 (2019 – 2024)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Woking Grade Separation						
Woking Platform 6						
South London HV (Wimbledon) Grid Upgrade	To expand the capability of the Wimbledon grid traction power system to facilitate the reliable operation of future capacity	RDG1 BML1	CP5 project	Improved capability and reliability of traction power system		In development
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development
<p>* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.</p> <p>* 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.</p>						

## Geographic Map



## Route specification description

The line between Woking and Basingstoke forms part of the South West Main Line (SWML) and covers a distance of just over 23 miles. There are four tracks from Woking to Basingstoke, an Up and Down Fast and an Up and Down Slow line. The entire route section is DC electrified throughout.

There are five stations between Woking and Basingstoke, these are Brookwood, Farnborough (Main), Fleet, Winchfield and Hook. Barton Mill Carriage Sidings are located just north of Basingstoke station and provide important berthing capability for the Wessex Route.

The route section and its stations are illustrated in the adjacent map.

In the east of this Strategic Route Section (SRS) Woking Junction is the point at which the SWML and the Portsmouth Direct Line (SRS C.06) converge. This is an important junction with a large impact on the provision of future capacity on both of these Main Line routes. Woking Station itself is a key interchange station for passengers wishing to travel to other parts of the Wessex Route.

Basingstoke, in the west of this SRS, provides a key junction on the SWML with both passenger and freight traffic operating through or originating at the station.

There are a significant number of freight and passenger services, including passenger services operated by CrossCountry, which travel to Reading and the North, via the currently non-electrified line through Bramley (SRS J.09). Other passenger services from London Waterloo that do not terminate at Basingstoke serve Salisbury and Exeter, via the non-electrified West of England Line (SRS C.14 and C.15), and Portsmouth, Southampton, Bournemouth, Poole and Weymouth, via the SWML (SRS C.03, C.04 and C.11). Service frequency and journey times are listed in the tables associated with this SRS.

Freight services pass through Basingstoke from docks in Southampton to the Midlands and the North. Other freight services traverse this SRS before leaving the SWML at Byfleet Junction (see SRS C.01).

The Wessex Route Study, published in August 2015, forms part of the Long Term Planning Process (LTPP) and has suggested a number of choices for addressing capacity and connectivity on this SRS. These include grade separation of both Basingstoke Junction and Woking Junction which will remove conflicting train movements that currently prevent any increase in passenger and freight capacity. Potential pedestrian capacity issues were identified in the Wessex Route Study at Woking and Basingstoke stations. These, and other schemes, will be further developed as appropriate in subsequent control periods, more details can be found in the Wessex Route Study [here](#).

Planned and proposed infrastructure investments are detailed in Table 5.0. There are a number of proposed, but not committed, schemes for delivery in future control periods but no significant schemes that are planned for delivery in Control Period 5 (CP5).

The Great Western Electrification Programme (GWEP) will address electrification of the Reading to Basingstoke line (SRS J.09) in Control Period 6 (CP6) and will include changes at Basingstoke Station.

This SRS will also see a number of targeted renewals delivered throughout CP5. The National Operating Strategy will migrate the control of all signalling, across the whole Wessex Route, to the Basingstoke Rail Operating Centre (ROC). This programme will be progressed through CP6 and beyond as per the national strategy..

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on this SRS.



## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	SW105: Clapham Junction to Weymouth			
Section start	Woking			
Section end	Basingstoke			
Route availability	8	8	8	
Gauge	W7, W8	W7, W8	W7, W8	Consideration should be given to the feasibility of providing passive provision for future AC electrification
Signals	Track circuit block	Track circuit block	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	Fast: 100mph Slow: 90mph	Fast: 100mph Slow: 90mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	750V dc third rail throughout	750V dc third rail throughout	750V dc third rail or 25kV overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	Basingstoke – Woking AM Peak Fast: 19 Off-peak Fast: 18 AM Peak Slow: 36 Off-peak Slow: 34	Basingstoke – Woking AM Peak Fast: 19 Off-peak Fast: 18 AM Peak Slow: 36 Off-peak Slow: 34	Basingstoke – Woking AM Peak Fast: 17 Off-peak Fast: 16 AM Peak Slow: 34 Off-peak Slow: 32	
No. of trains per hour	Up departures from Basingstoke AM Peak: 15 Off-peak: 14  Up departures at Woking AM Peak: 23 Off-peak: 16	Up departures from Basingstoke AM Peak: 15 Off-peak: 14  Up departures at Woking AM Peak: 23 Off-peak: 16	Up departures from Basingstoke AM Peak: 22 Off-peak: 16  Up departures at Woking AM Peak: 35 Off-peak: 19	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Woking – Basingstoke			
<b>Daily paths in one direction (as per WTT)</b>	6	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

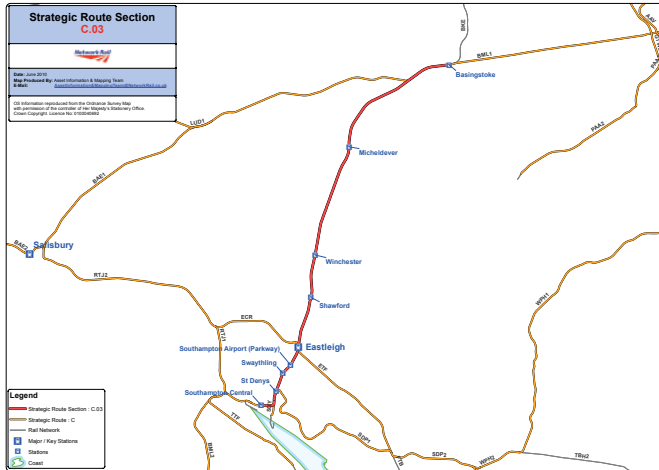
There are no level crossings in this route section.

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Electric Spine Development Programme	The Electric Spine will be a new 25kV electrified passenger and freight network from the Solent, Thames Valley linking to the West and East Midlands to South Yorkshire. In addition to electrification, the programme also includes a number of strategic capacity enhancement schemes. The programme of works is expected to be implemented in a phased approach, starting in CP5 but continuing into CP6 and potentially beyond.	BML1	Development CP5 Implementation CP6	An important step towards enabling 'CrossCountry' passenger services and freight to operate electrically in the future.	The project will identify the optimal value for money solution to meet the funders' requirements for this section of the Electric Spine. It will consider the case for conversion of the third rail DC electrification to a modern overhead AC system. As part of this work, Network Rail will also consider the wider high level policy for replacement of DC equipment with an AC system. The Development Programme will also consider further electrification and capacity enhancements that could be candidates for longer term development and maximise the benefit of the Electric Spine.	In development
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

## Geographic Map



## Route specification description

The line between Basingstoke and Southampton forms part of the South West Main Line (SWML). There are four tracks from Basingstoke to Worting Junction from where the route continues as a two track railway as far as Shawford. Between Shawford and Southampton Central there is a combination of four and two track sections. The entire route section is DC electrified throughout.

Southampton Central, in the south of this Strategic Route Section (SRS), provides an important interchange for passengers wishing to travel to other parts of the country.

The route section and its stations are illustrated in the adjacent map.

There are a significant number of freight and passenger services, including passenger services operated by CrossCountry, which travel to Reading and the North, via the currently non-electrified line through Bramley (SRS J.09). The line is also used by long distance services from Bournemouth and Weymouth, local services serving the South Hampshire area as well as inter-regional services to destinations such as Cardiff Central and Brighton. Northam Traincare Facility, situated between St Denys and Southampton Central, is the home of the Desiro fleet (Class 450 & Class 444) and as such the SRS also accommodates Empty Coaching Stock (ECS) movements. Service frequency and journey times are listed in the tables associated with this SRS.

This is a key corridor for freight movement, particularly for car and intermodal freight from the docks at Southampton. Bevois Park sidings, near St Denys, are designated as a Strategic Freight Site. Waller's Ash Loops, situated north of Winchester, provide passing capability to allow freight services to be overtaken by the faster passenger services that operate on this line. Eastleigh Yard provides a hub for freight operation, particularly in relation to engineering traffic.

The Freight Market Study, part of the Long Term Planning Process (LTPP), has identified growth in the deep sea container market which will require an increase in capacity on the route between Southampton and the West Coast Main Line (WCML).

The Wessex Route Study, published in August 2015, forms part of the LTPP and has suggested a number of choices for addressing capacity and connectivity on this SRS. These include grade separation of Basingstoke Junction, the extension of Waller's Ash Loops and platform capacity works at Southampton Central to enable an increase in both passenger and freight traffic through the station. Potential pedestrian capacity issues were identified in the Wessex Route Study at Basingstoke Station. These, and other schemes, will be further developed as appropriate in subsequent control periods, more details can be found in the Wessex Route Study [here](#).

Planned and proposed infrastructure investments are detailed in [Table 5.0](#). These include a programme to allow 775m freight trains to operate on this line which was completed in Control Period 5 (CP5).

Plans to investigate the conversion of traction power from DC to AC electrification on this line is currently on hold, following some initial development work. This work forms part of the Electric Spine Development Programme.

This SRS will also see a number of targeted renewals delivered throughout CP5. The National Operating Strategy will migrate the control of all signalling, across the whole Wessex Route, to the Basingstoke Rail Operating Centre (ROC). This programme will be progressed through CP6 and beyond as per the national strategy.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	SW105: Clapham Junction to Weymouth			
Section start	Basingstoke			
Section end	Southampton Central			
Route availability	8	8	8	
Gauge	W7, W8, W10	W7, W8, W10	W7, W8, W10	Consideration should be given to the feasibility of providing passive provision for future AC electrification
Signals	Track circuit block	Track circuit block	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	100mph	100mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	750V dc third rail throughout	750V dc third rail or 25kV overhead	750V dc third rail or 25kV overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	Southampton Central – Basingstoke AM Peak Fast: 31 Off-peak Fast: 31 AM Peak Stopper: 44 Off-peak Stopper: 46	Southampton Central – Basingstoke AM Peak Fast: 31 Off-peak Fast: 31 AM Peak Stopper: 44 Off-peak Stopper: 46	Southampton Central – Basingstoke AM Peak Fast: 29 Off-peak Fast: 29 AM Peak Stopper: 42 Off-peak Stopper: 44	
No. of trains per hour	Up departures from Southampton Central AM Peak: 12 Off-peak: 11	Up departures from Southampton Central AM Peak: 12 Off-peak: 11	Up departures from Southampton Central AM Peak: 17 Off-peak: 13	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Southampton – Basingstoke			
<b>Daily paths in one direction (as per WTT)</b>	48	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	1	As determined by Level Crossing policy	
<b>Automatic:</b>	0		
<b>User:</b>	3		

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

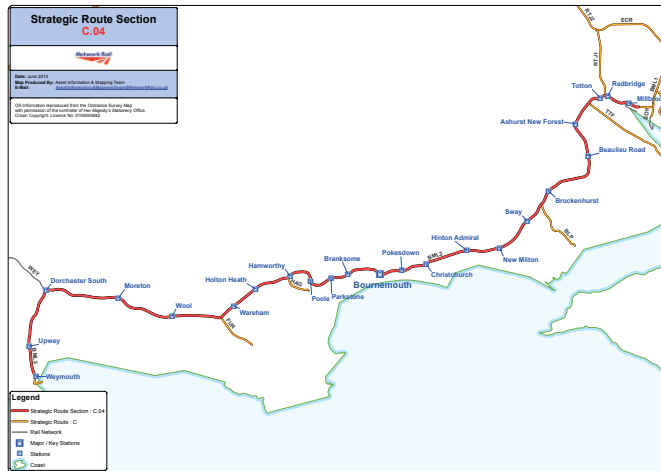
Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Eastleigh Down Yard land sale and reorganisation of yard	Allocation of space for commercial property sale by moving current operations to improved locations around the Down Yard site with passive provision for a new platform	EYD1 EYD2 EYD3 EYD4		Improves the Down Yard's operation, reserves space for additional platform and passenger entrance		In development
Freight Train Lengthening (Extension of Eastleigh Loop)	Extension of loop for 662/775m freight services to allow longer trains to operate out of Southampton Docks	BML1	CP5 project	Provides a location to hold longer freight trains in times of disruption or for bypassing purposes		In delivery
Electric Spine Development Programme (Basingstoke to Southampton element)	The Electric Spine will be a new 25kV electrified passenger and freight network from the Solent, Thames Valley linking to the West and East Midlands to South Yorkshire. In addition to electrification, the programme also includes a number of strategic capacity enhancement schemes. The programme of works is expected to be implemented in a phased approach, starting in CP5 but continuing into CP6 and potentially beyond.	BML1 BML2	Development CP5 Implementation CP6	An important step towards enabling 'Cross Country' passenger services and freight to operate electrically in the future.	The project will identify the optimal value for money solution to meet the funders' requirements for this section of the Electric Spine. It will consider the case for conversion of the third rail DC electrification to a modern overhead AC system. As part of this work, Network Rail will also consider the wider high level policy for replacement of DC equipment with an AC system. The Development Programme will also consider further electrification and capacity enhancements that could be candidates for longer term development and maximise the benefit of the Electric Spine.	In development
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.

\* 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.

# SRS C.04 Southampton – Weymouth

## Geographic Map



## Route specification description

The line between Southampton and Weymouth forms part of the South West Main Line (SWML). There are four tracks from Southampton Central to Millbrook where the route continues as a two track railway as far as Moreton. There is then a single line between Moreton and Dorchester South where the line then continues as two track railway to Weymouth Junction at which there is a short piece of single track on the approach to Weymouth Station. The entire route section is DC electrified throughout.

Between Southampton Central and Weymouth there are twenty two stations. The route section and its stations are illustrated in the adjacent map.

Bournemouth Traction and Rolling Stock Maintenance Depot is located near Branksome station, providing stabling and maintenance capability on the route.

Services through this section include passenger and freight flows. On this section long distance passenger services split and join at Bournemouth or Southampton Central on their way to/ from London Waterloo. CrossCountry services operate from Bournemouth to destinations in the North. Great Western Railway (GWR) services operate between Weymouth and Castle Cary to Bristol (SRS K.05) along the ‘Heart of Wessex’ line which joins this line at Dorchester Junction. Service frequency and journey times are listed in the tables associated with this Strategic Route Section (SRS).

There are a significant number of freight terminals that are accessed from this section: Southampton Eastern Docks; Southampton Western Docks; Millbrook Freightliner Terminal; Maritime Freightliner Terminal; Marchwood and Fawley; Hamworthy; and Wool, see SRS C.99. There is also a Strategic Freight Site at Totton.

Brockenhurst a popular destination for passengers visiting the New Forest, it also offers a connection service via a branch line to Lymington; and the ferry to Yarmouth, Isle of Wight. At Worgret Junction, near Wareham, there is a connection to the Swanage Heritage Railway. A scheme continues to enable services from the Swanage Railway to operate into Wareham.

The Wessex Route Study, published in August 2015, forms part of the Long Term Planning Process (LTPP) and has suggested a number of choices for addressing capacity and connectivity on this SRS. These include platform capacity works at Southampton Central to enable an increase in both passenger and freight traffic through the station and works to reduce signalling headways between Totton and Poole. These, and other schemes, will be further developed as appropriate in subsequent control periods, more details can be found in the Wessex Route Study [here](#).

Planned and proposed infrastructure investments are detailed in Table 5.0. There are a number of proposed, but not committed, schemes for delivery in future control periods but no significant schemes that are planned for delivery in Control Period 5 (CP5).

This SRS will also see a number of targeted renewals delivered throughout CP5. The National Operating Strategy will migrate the control of all signalling, across the whole Wessex Route, to the Basingstoke Rail Operating Centre (ROC). This programme will be progressed through CP6 and beyond as per the national strategy.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route.



## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	SW105: Clapham Junction to Weymouth			
Section start	Southampton			
Section end	Weymouth			
Route availability	4,8	4,8	4,8	
Gauge	W6, W7, W8	W6, W7, W8	W6, W7, W8	Consideration should be given to the feasibility of providing passive provision for future AC electrification
Signals	Track circuit block	Track circuit block	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	90mph	90mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	750V dc third rail throughout	750V dc third rail throughout	750V dc third rail or 25kV overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	<p>Weymouth – Southampton AM Peak: 93 Off-peak: 85</p> <p>Bournemouth – Southampton AM Peak Fast: 29 Off-peak Fast: 27 AM Peak Slow: 49 Off-peak Slow: 47</p>	<p>Weymouth – Southampton AM Peak: 93 Off-peak: 85</p> <p>Bournemouth – Southampton AM Peak Fast: 29 Off-peak Fast: 27 AM Peak Slow: 49 Off-peak Slow: 47</p>	<p>Weymouth – Southampton AM Peak: 91 Off-peak: 83</p> <p>Bournemouth – Southampton AM Peak Fast: 27 Off-peak Fast: 25 AM Peak Slow: 47 Off-peak Slow: 45</p>	
No. of trains per hour	<p>Up departures from Bournemouth AM Peak: 5 Off-peak: 4</p>	<p>Up departures from Bournemouth AM Peak: 5 Off-peak: 4</p>	<p>Up departures from Bournemouth AM Peak: 6 Off-peak: 5</p>	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Totton – Wool/Hamworthy			
<b>Daily paths in one direction (as per WTT)</b>	2	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	6	As determined by Level Crossing policy	
<b>Automatic:</b>	6		
<b>User:</b>	18		

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Southampton West S&C renewal	Renewal of switches and crossings and potential enhancement or improved layout	BML1	CP5	Renewed infrastructure and potential flexibility improvement		In development
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development

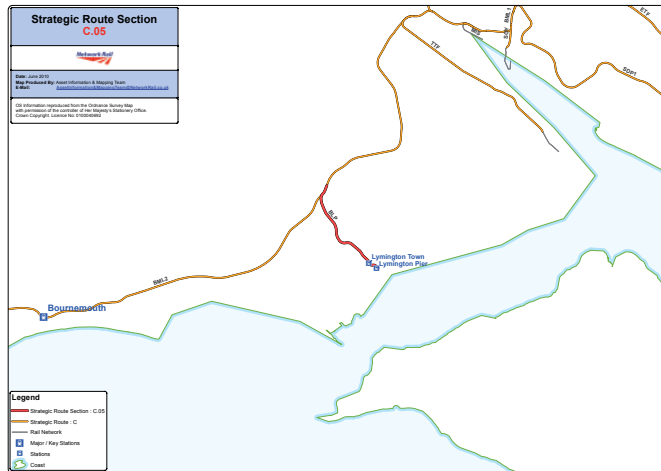
\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* The precise timing and scope of renewals will remain subject to review to enable us to meet our overall obligations as efficiently as possible, consistent with the reasonable requirements of operators and other stakeholders.

# SRS C.05 Lymington Branch

March 2016

Network Rail – Route Specifications: Wessex 20

## Geographic Map



## Route specification description

The Lymington Branch runs from Lymington Pier station to Brockenhurst on the South West Main Line (SWML) and is less than six miles long. At Lymington Pier there is a ferry service operating to/from Yarmouth, Isle of Wight.

The route section and its stations are illustrated in the adjacent map.

The line is electrified and is single line from Lymington Pier to Brockenhurst Junction. There is only one platform face at both Lymington Pier and Lymington Town stations.

Passenger train services are operated by Stagecoach South Western Trains and run between Lymington Pier and Brockenhurst calling at the only other operational station on the line, Lymington Town. There is a private station called Ampress Works which is currently closed, between Lymington Town and Brockenhurst stations.

The short length of this line, coupled with services stopping at Lymington Town station means journey times are relatively slow considering the distance in miles. Service frequency and journey times are listed in the tables associated with this Strategic Route Section (SRS).

The Wessex Route Study, published in August 2015, has forecast no increase in passenger demand that cannot currently be accommodated on existing services, or that generates the need for investment.

The National Operating Strategy will migrate the control of all signalling, across the whole Wessex Route, to the Basingstoke Rail Operating Centre (ROC). This programme will be progressed through CP6 and beyond as per the national strategy.

Network Rail will continue to identify small schemes that will improve safety, performance, network availability and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	SW160: Brockenhurst to Lymington Pier			
Section start	Brockenhurst			
Section end	Lymington Pier			
Route availability	8	8	8	
Gauge	W6	W6	W6	Consideration should be given to the feasibility of providing passive provision for future AC electrification
Signals	Track circuit block	Track circuit block	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	60mph	60mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	750V dc third rail throughout	750V dc third rail throughout	750V dc third rail or 25kV overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	Lymington Pier to Brockenhurst All day: 11	Lymington Pier to Brockenhurst All day: 11	Lymington Pier to Brockenhurst All day: 11	
No. of trains per hour	2 stopping services	2 stopping services	2 stopping services	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	No freight services			
<b>Daily paths in one direction (as per WTT)</b>	0	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	1	As determined by Level Crossing policy	
<b>Automatic:</b>	0		
<b>User:</b>	1		

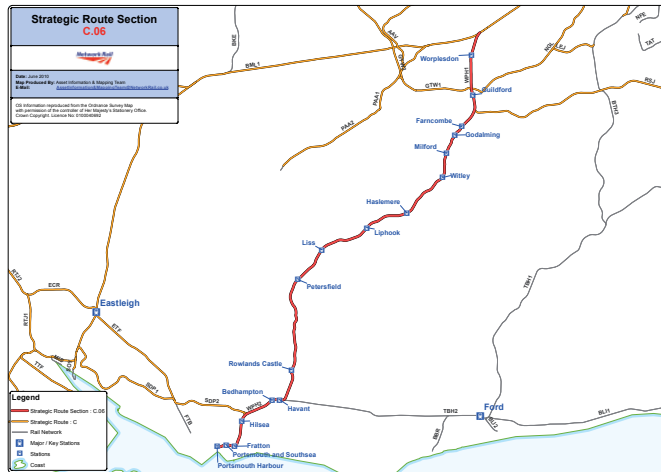
## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

# SRS C.06 Woking – Portsmouth

## Geographic Map



## Route specification description

The line between Woking and Portsmouth harbour is known as the Portsmouth Direct Line. There are four tracks on leaving Woking station to Woking Junction where the route continues as two track railway all the way to Portsmouth Harbour, with the exception of some stations where additional tracks are present to provide passing opportunities. The entire route section is DC electrified throughout.

Between Woking and Portsmouth Harbour there are sixteen stations. There are a high number of level crossings on this route and it is characterised by difficult topography which results in relatively long journey times considering the distance in miles. The route section and its stations are illustrated in the adjacent map.

In the north of this Strategic Route Section (SRS) Woking Junction is the point at which the SWML and the Portsmouth Direct Line (SRS C.06) converge. This is an important junction with a large impact on the provision of future capacity on both of these Main Line routes. Woking Station itself is a key interchange station for passengers wishing to travel to other parts of the Wessex Route.

Guildford is another important interchange station and marks the point at which the North Downs Line crosses the Portsmouth Direct Line. Services to Reading, London Waterloo, Portsmouth Harbour, Ascot, Redhill and Gatwick Airport operate from this station making its eight platforms heavily used. Haslemere has a loop allowing Fast trains to pass stopping services. At Havant the line is joined by the West Coastway from Chichester and diverges at Farlington Junction either towards Portsmouth or Fareham and Southampton.

Fratton Traincare Depot is located just to the east of Fratton and provides overnight berthing for Class 444 and Class 450 Desiro rolling stock. Portsmouth and Southsea station, located in Portsmouth Town has four platforms, two of which are at low level for terminating trains and two are at high level where the track continues to Portsmouth Harbour. Portsmouth Harbour station, which sits on stilts over the water, is an interchange for ferry services to Ryde, Isle of Wight and Gosport. Platform 2 at Portsmouth Harbour is currently out of use owing to the strength of the pier structure.

The lead operator on this route is Stagecoach South Western Trains, who operate services between Portsmouth Harbour and London Waterloo or Southampton Central. Govia Thameslink Railway (GTR) services operate between Brighton/Chichester and Portsmouth Harbour/ Southampton Central and the Great Western Railway (GWR) between Cardiff Central and Portsmouth Harbour via Southampton Central. Service frequency and journey times are listed in the tables associated with this SRS.

The Wessex Route Study, published in August 2015, forms part of the Long Term Planning Process (LTPP) and has suggested a number of choices for addressing capacity and connectivity on this SRS. These include platform capacity works at Portsmouth Harbour and Portsmouth & Southsea to enable an increase in passenger services for improved connectivity. Additional passing capability on the line to enable an increase in services to London Waterloo has also been suggested. These, and other schemes, will be further developed as appropriate in subsequent control periods, more details can be found in the Wessex Route Study [here](#).

Planned and proposed infrastructure investments are detailed in [Table 5.0](#) below. There are a number of proposed, but not committed, schemes for delivery in future control periods but no significant schemes that are planned for delivery in Control Period 5 (CP5).

This SRS will also see a number of targeted renewals delivered throughout CP5. The National Operating Strategy will migrate the control of all signalling, across the whole Wessex Route, to the Basingstoke Rail Operating Centre (ROC). This programme will be progressed through CP6 and beyond as per the national strategy.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route.



## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	SW110: Woking Junction to Portsmouth Harbour			
Section start	Woking Junction			
Section end	Portsmouth Harbour			
Route availability	4,8	4,8	4,8	
Gauge	W6, W7	W6, W7	W6, W7	Consideration should be given to the feasibility of providing passive provision for future AC electrification
Signals	Track circuit block	Track circuit block	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	90mph	90mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	750V dc third rail throughout	750V dc third rail throughout	750V dc third rail or 25kV overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	Portsmouth – Woking AM Peak fast: 68 Off-peak fast: 65 AM Peak stopper: 98 Off-peak stopper: 80	Portsmouth – Woking AM Peak fast: 67 Off-peak fast: 64 AM Peak stopper: 97 Off-peak stopper: 79	Portsmouth – Woking AM Peak fast: 66 Off-peak fast: 64 AM Peak stopper: 97 Off-peak stopper: 79	
No. of trains per hour	Up departures from Havant AM Peak: 9 Off-peak: 8  Up departures from Guildford AM Peak: 15 Off-peak: 13	Up departures from Havant AM Peak: 9 Off-peak: 8  Up departures from Guildford AM Peak: 15 Off-peak: 13	Up departures from Havant AM Peak: 12 Off-peak: 10  Up departures from Guildford AM Peak: 22 Off-peak: 15	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Cosham Junction - Guildford			
<b>Daily paths in one direction (as per WTT)</b>	1	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	6	As determined by Level Crossing policy	
<b>Automatic:</b>	5		
<b>User:</b>	6		

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.



## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
<b>Line of route description</b>	SW180: Raynes Park to Horsham SW185: Motspur Park to Chessington South SW205: Leatherhead to Effingham Junction SW200: Hampton Court Junction to Guildford SW195: Hampton Court Junction to Hampton Court			
<b>Section start</b>	Raynes Park/Leatherhead/Hampton Court Junction			
<b>Section end</b>	Epsom/Chessington South/Effingham Junction (via Bookham)/Hampton Court			
<b>Route availability</b>	4,8	4,8	4,8	
<b>Gauge</b>	W6	W6	W6	Consideration should be given to the feasibility of providing passive provision for future AC electrification
<b>Signals</b>	Track circuit block	Track circuit block	European Train Control System (ETCS)	
<b>Speed</b> See Sectional Appendix for detailed speed profiles	Raynes Park – Epsom: 60mph Chessington Branch: 60mph New Line (Claygate line): 70mph Hampton Court Branch: Up 40 mph and Down 45mph	Raynes Park – Epsom: 60mph Chessington Branch: 60mph New Line (Claygate line): 70mph Hampton Court Branch: Up 40 mph and Down 45mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
<b>Electrification</b>	750V dc third rail throughout	750V dc third rail throughout	750V dc third rail or 25kV overhead	

Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
<b>Typical journey time (minutes)</b>	Guildford – Surbiton (via Claygate) All day: 34  Guildford – Raynes Park (via Bookham) All day: 51  Chessington South – Raynes Park All day: 14  Hampton Court – Surbiton All day: 7	Guildford – Surbiton (via Claygate) All day: 34  Guildford – Raynes Park (via Bookham) All day: 51  Chessington South – Raynes Park All day: 14  Hampton Court – Surbiton All day: 7	Guildford – Surbiton (via Claygate) All day: 33  Guildford – Raynes Park (via Bookham) All day: 50  Chessington South – Raynes Park All day: 13  Hampton Court – Surbiton All day: 7	
<b>No. of trains per hour</b>	Up departures from Havant AM Peak: 9 Off-peak: 8  Up departures from Guildford AM Peak: 15 Off-peak: 13	Up departures from Havant AM Peak: 9 Off-peak: 8  Up departures from Guildford AM Peak: 15 Off-peak: 13	Up departures from Effingham Junction AM Peak: 7 Off-peak: 5  Up departures from Motspur Park AM Peak: 9 Off-peak: 7  Departures from Hampton Court All day: 2	2043 train service levels reflect potential Crossrail 2 impact (not yet committed).

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Tolworth – Raynes Park			
<b>Daily paths in one direction (as per WTT)</b>	1	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	3	As determined by Level Crossing policy	
<b>Automatic:</b>	0		
<b>User:</b>	0		

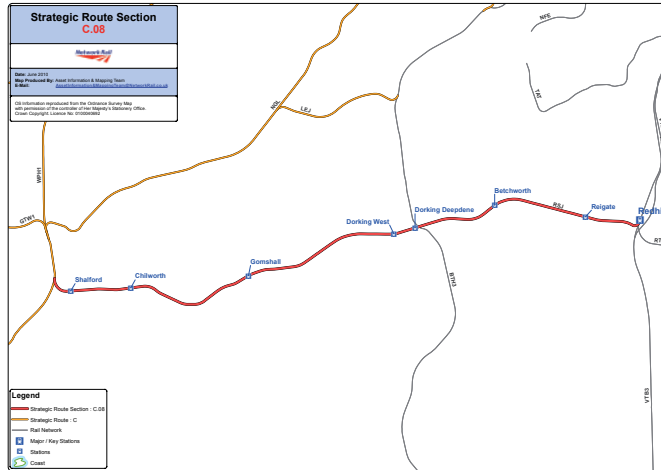
## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
South London HV (Wimbledon) Grid Upgrade	To expand the capability of the Wimbledon grid traction power system to facilitate the reliable operation of future capacity	HAM NGL LEJ RPE MPC	CP5 project	Improved capability and reliability of traction power system		In development
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development
Waterloo Capacity Programme	Platform lengthening, integration of Waterloo International Terminal for domestic use and other associated works to facilitate increased capacity on the Wessex Route	BML1 RDG1 JAT	CP5 project	Improved passenger flow, longer trains and a more flexible layout		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.



## Geographic Map



## Route specification description

The line between Redhill and Shalford Junction forms part of the line referred to as ‘the North Downs Line’ (which also includes the line between Guildford and Wokingham - SRS C.09). The route is double track throughout, leaving the Brighton Main Line Slow Lines at Redhill and joining the Portsmouth Direct Line at Shalford Junction. This line is currently not electrified.

The services operating on the line link the Great Western Main Line at Reading, via Guildford, with the Brighton Main Line at Redhill and directly with Gatwick Airport. Service provision is two trains per hour with one terminating at Redhill and one to Gatwick Airport (via a reverse at Redhill). Stopping patterns on the line mean that stations either receive one train every two hours (Chilworth, Gomshall, Dorking West and Betchworth) or one to two trains every hour (Shalford, Dorking Deepdene, Reigate and Redhill). All services are operated by Great Western Railways (GWR).

The route section and its stations are illustrated in the adjacent map. Service frequency and journey times are listed in the tables associated with this Strategic Route Section (SRS).

The Wessex Route Study, published in August 2015, forms part of the Long Term Planning Process (LTPP) and has suggested a number of choices for addressing capacity and connectivity on this SRS. These include an increase in service level to 2tph between Reading and Gatwick Airport plus 1tph stopping service between Reading and Redhill; and works to improve journey times through reduced signalling headways and linespeeds on the line. These will be further developed as appropriate in subsequent control periods, more details can be found in the Wessex Route Study [here](#).

Planned and proposed infrastructure investments are detailed in [Table 5.0](#) below.

The proposal for 3tph on the North Downs Line has been included in the GWR Direct Award and is currently being reviewed by Network Rail to understand the impact on other services and on level crossing risk.

The first step towards enabling 3tph was completed in Control Period 4 (CP4), this was the construction of Platform 7 at Gatwick

Airport station and dedication of Platforms 5 & 6 to Gatwick Express services, leaving Platforms 1-3 solely for Slow line trains, increasing the capacity at the station.

In Control Period 5 (CP5), the construction of an additional platform at Redhill will provide the next incremental step towards the introduction of 3tph North Downs Line services. This will have significant performance and timetable benefits in isolation from the North Downs Line, and will additionally facilitate the extension of more direct North Downs Line to Gatwick Airport services in the future.

This SRS will also see a number of targeted renewals delivered throughout CP5. The National Operating Strategy will migrate the control of all signalling, across the whole Wessex Route, to the Basingstoke Rail Operating Centre (ROC). Specifically for this SRS there will be some migration of signalling control to the Three Bridges ROC as well. This programme will be progressed through CP6 and beyond as per the national strategy.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
<b>Line of route description</b>	SW300: Gomshall to Shalford Junction SO560: Redhill to Guildford			
<b>Section start</b>	Redhill			
<b>Section end</b>	Shalford Jn			
<b>Route availability</b>	8	8	8	
<b>Gauge</b>	W6	W6	W6	Consideration should be given to the feasibility of providing passive provision for future AC electrification
<b>Signals</b>	Track circuit block	Track circuit block	European Train Control System (ETCS)	
<b>Speed</b> See Sectional Appendix for detailed speed profiles	65mph	65mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
<b>Electrification</b>	750V dc third rail Redhill – Reigate only	750V dc third rail Redhill – Reigate only	Full electrification across the SRS (either 750v DC or 25kv AC)	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
<b>Typical journey time (minutes)</b>	AM Peak: 28 Off-peak: 28	AM Peak: 28 Off-peak: 28	AM Peak: 28 Off-peak: 28	
<b>No. of trains per hour</b>	Departing Reigate AM Peak: 5 Off-peak: 3	Departing Reigate AM Peak: 5 Off-peak: 3	Departing Reigate AM Peak: 6 Off-peak: 4	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
Route section	None			
Daily paths in one direction (as per WTT)	0	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

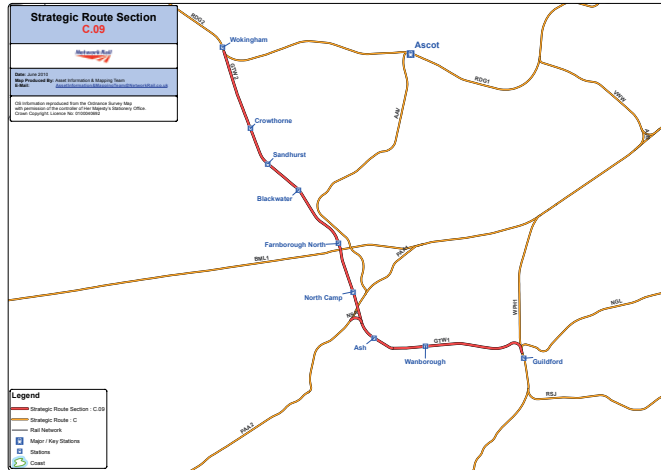
Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
Supervised:	3	3	3
Automatic:	5	5	5
User:	8	8	8

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
New platform at Redhill	Provision of an additional platform (Platform 0) with performance and capacity benefits	RED2 RSJ	Early CP5	Improved accessibility, performance and flexibility		In development
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

## Geographic Map



## Route specification description

The line between Guildford and Wokingham Junction forms part of the line referred to as ‘the North Downs Line’ (which also includes the line between Redhill and Shalford Junction - SRS C.08). The route section is two track railway with the exception of Guildford itself. It is electrified from Guildford to Aldershot South Junction, the line is then non-electrified as far as Wokingham Junction. The line crosses the Alton Line at Aldershot South Junction. There are seven stations between Guildford and Wokingham.

The services operating on the line link the Great Western Main Line at Reading, via Guildford, with the Brighton Main Line at Redhill and directly with Gatwick Airport. Service provision is two trains per hour with one terminating at Redhill and one to Gatwick Airport (via a reverse at Redhill). Stopping patterns on the line mean that stations either receive one train every two hours (Chilworth, Gomshall, Dorking West and Betchworth) or one to two trains every hour (Shalford, Dorking Deepdene, Reigate and Redhill). All services are operated by Great Western Railways (GWR).

The route section and its stations are illustrated in the adjacent map. Service frequency and journey times are listed in the tables associated with this Strategic Route Section (SRS).

The Wessex Route Study, published in August 2015, forms part of the Long Term Planning Process (LTPP) and has suggested a number of choices for addressing capacity and connectivity on this SRS. These include an increase in service level to 2tph between Reading and Gatwick Airport plus 1tph stopping service between Reading and Redhill; and works to improve journey times through reduced signalling headways and linespeeds on the line. These will be further developed as appropriate in subsequent control periods, more details can be found in the Wessex Route Study [here](#).

Planned and proposed infrastructure investments are detailed in [Table 5.0](#) below.

The proposal for 3tph on the North Downs Line has been included in the GWR Direct Award and is currently being reviewed by Network Rail to understand the impact on other services and on level crossing risk.

The first step towards enabling 3tph was completed in Control Period 4 (CP4), this was the construction of Platform 7 at Gatwick Airport station and dedication of Platforms 5 & 6 to Gatwick Express services, leaving Platforms 1-3 solely for Slow line trains, increasing the capacity at the station.

In Control Period 5 (CP5), the construction of an additional platform at Redhill will provide the next incremental step towards the introduction of 3tph North Downs Line services. This will have significant performance and timetable benefits in isolation from the North Downs Line, and will additionally facilitate the extension of more direct North Downs Line to Gatwick Airport services in the future.

This SRS will also see a number of targeted renewals delivered throughout CP5. The National Operating Strategy will migrate the control of all signalling, across the whole Wessex Route, to the Basingstoke Rail Operating Centre (ROC). This programme will be progressed through CP6 and beyond as per the national strategy. As part of this programme the Feltham Re-signalling project will see the full renewal and recontrol of the Wokingham Signalling Area into the Basingstoke ROC during CP6.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
<b>Line of route description</b>	SW265: Guildford to Wokingham SW120: Pirbright Junction to Alton			
<b>Section start</b>	Guildford			
<b>Section end</b>	Wokingham/Aldershot North Junction			
<b>Route availability</b>	8	8	8	
<b>Gauge</b>	W6	W6	W6	Consideration should be given to the feasibility of providing passive provision for future AC electrification
<b>Signals</b>	Track circuit block	Track circuit block	European Train Control System (ETCS)	
<b>Speed</b> See Sectional Appendix for detailed speed profiles	70mph	70mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
<b>Electrification</b>	750V dc third rail only between Guildford and Aldershot Junction and at Wokingham	750V dc third rail only between Guildford and Aldershot Junction and at Wokingham	Full electrification across the SRS (either 750v DC or 25kv AC)	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
<b>Typical journey time (minutes)</b>	Wokingham – Guildford AM Peak Fast: 30 Off-peak Fast: 25 AM Peak Stopper: 34 Off-peak Stopper: 34	Wokingham – Guildford AM Peak Fast: 30 Off-peak Fast: 25 AM Peak Stopper: 34 Off-peak Stopper: 34	Wokingham – Guildford AM Peak Fast: 29 Off-peak Fast: 24 AM Peak Stopper: 33 Off-peak Stopper: 33	
<b>No. of trains per hour</b>	Up departures from Blackwater AM Peak: 3 Off-peak: 2  Up departures from Ash AM Peak: 5 Off-peak: 4	Up departures from Blackwater AM Peak: 3 Off-peak: 2  Up departures from Ash AM Peak: 5 Off-peak: 4	Up departures from Blackwater AM Peak: 4 Off-peak: 3  Up departures from Ash AM Peak: 6 Off-peak: 5	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Guildford – Aldershot North Junction			
<b>Daily paths in one direction (as per WTT)</b>	1	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	2	As determined by Level Crossing policy	
<b>Automatic:</b>	1		
<b>User:</b>	4		

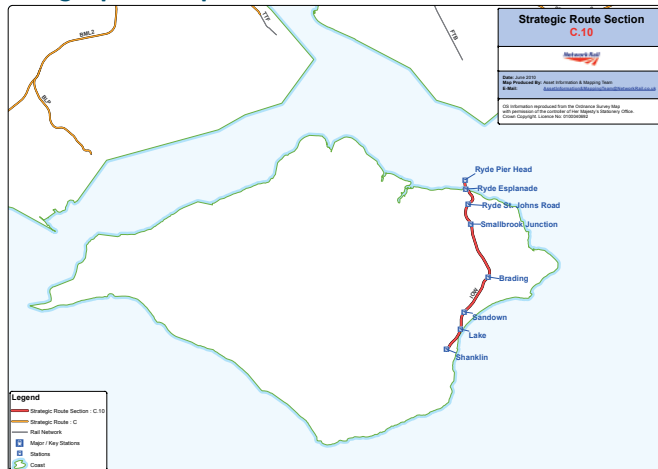
## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.



## Geographic Map



## Route specification description

The Island Line on the Isle of Wight operates between Ryde Pier Head to Shanklin and is less than eight and a half miles, from end to end. The line connects with the mainland via a ferry service between Ryde Pier Head and Portsmouth Harbour stations. The line is double track from Ryde Pier Head to Smallbrook Junction and from there is single line all the way to Shanklin, with the exception of a passing loop at Sandown.

Due to a low ceiling in the Ryde Esplanade Tunnel standard gauge rolling stock cannot be used on this line. This has necessitated the use of refurbished London Underground 1938 stock (Class 183).

Ryde Pier Head station, and the track to Ryde Esplanade station, is supported by a pier above The Solent. At Ryde St John's Road there is a signal box and Ryde Train Care Depot, from which the 1938 London Underground rolling stock is maintained. The line has an interchange with the Isle of Wight Steam Railway at Smallbrook Junction. The entire route section is DC electrified throughout.

The number of stations on this short distance route means journey times are relatively slow considering the distance in miles. The route section and its stations are illustrated in the adjacent map.

Service frequency and journey times are listed in the tables associated with this SRS.

Train services, operated by Island Line Trains (part of Stagecoach), shuttle between Ryde Pier Head and Shanklin, calling at Ryde Esplanade, Ryde St John's Road, Brading, Sandown and Lake in between.

The railway infrastructure associated with this line is maintained and operated by the franchise holder, Island Line Trains.

Network Rail will continue to identify small schemes that will improve safety, performance and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	Ryde Pier Head to Shanklin			
Section start	Ryde Pier Head			
Section end	Shanklin			
Route availability	1	1	1	
Gauge	W6	W6	W6	
Signals	Track Circuit Block and One Train Working	Track Circuit Block and One Train Working	Track Circuit Block and One Train Working	
Speed See Sectional Appendix for detailed speed profiles	45mph	Raise linespeed to highest possible	Raise linespeed to highest possible	
Electrification	660V dc third rail throughout	660V dc third rail throughout	660V dc third rail throughout	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	Ryde Pier Head to Shanklin – 23 minutes	No known recommended service changes	No known recommended service changes	
No. of trains per hour	2 stopping services	No known recommended service changes	No known recommended service changes	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Ryde Pier Head to Shanklin			
<b>Daily paths in one direction (as per WTT)</b>	0	0	0	No freight services operate on this route
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	0	As determined by Level Crossing policy	
<b>Automatic:</b>	0		
<b>User:</b>	10		

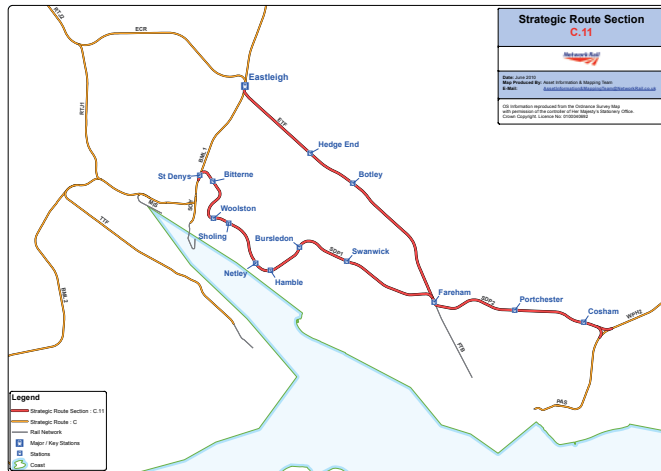
**Proposed infrastructure investment in Control Period 5 (2014 – 2019)\***

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
\* 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.

# SRS C.11 Cosham – St Denys/Eastleigh

## Geographic Map



## Route specification description

This Strategic Route Section (SRS) runs predominately along the West Coastway, connecting the cities of Southampton and Portsmouth. Beginning at both Farlington Junction and Portcreek Junction where the line joins the Portsmouth Direct Line (SRS C.06). From these junctions the lines merge, after less than a mile, at Cosham Junction and continue as one line to Fareham. The line splits after Fareham, with one line continuing along the coast to St Denys via Netley and the other in a north westerly direction to Eastleigh via Botley.

The SRS is two track railway with the exception of two sections. Fareham North Junction to Botley is single track for approximately five miles and Eastleigh South Junction to Eastleigh West Junction is single track for approximately one mile.

This route section and its stations are illustrated in the adjacent map.

There are a number of constraint areas on this SRS that mean that the linespeed is fairly low. These constraints include the tight bends and curves along the line, specifically on the Netley line. The signalling headways from Fareham to Eastleigh and St Denys are between five and six minutes.

Passenger and freight trains operate in this section. Aggregate freight trains run to terminals at Botley and Fareham. Stagecoach South Western Trains (SSWT) passenger services operate between Waterloo and Portsmouth Harbour utilising the line via Botley. SSWT passenger services also operate between Portsmouth Harbour and Southampton utilising the line via Netley. Great Western Railway operate services between Portsmouth Harbour and Cardiff Central via Southampton and Salisbury. Govia Thameslink Railway (GTR) operate services between Southampton and Victoria/Gatwick/Brighton via Netley. Service frequency and journey times are listed below.

The Wessex Route Study, published in August 2015, forms part of the Long Term Planning Process (LTPP) and suggests that improvements to signalling headways and linespeeds could increase capacity and connectivity on this SRS. Solutions to these constraints will be further developed as appropriate in subsequent

control periods, more details can be found in the Wessex Route Study [here](#).

Network Rail are working with local stakeholders to investigate improvements to local services to improve connectivity and journey times between Southampton and Portsmouth, between the east of the area and Southampton Airport and to other regional destinations.

Planned and proposed infrastructure investments are detailed Table 5.0 below.

This SRS will also see a number of targeted renewals delivered throughout CP5. The National Operating Strategy will migrate the control of all signalling, across the whole Wessex Route, to the Basingstoke Rail Operating Centre (ROC).

Network Rail will continue to identify small schemes that will improve safety, performance, network availability and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
<b>Line of route description</b>	SW140: St. Denys to Portcreek Junction SW135: Eastleigh to Fareham			
<b>Section start</b>	Cosham			
<b>Section end</b>	St Denys/Eastleigh			
<b>Route availability</b>	4,8	4,8	4,8	
<b>Gauge</b>	W6, W7	W6, W7	W6, W7	Consideration should be given to the feasibility of providing passive provision for future AC electrification
<b>Signals</b>	Track circuit block	Track circuit block	European Train Control System (ETCS)	
<b>Speed</b> See Sectional Appendix for detailed speed profiles	70mph	70mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
<b>Electrification</b>	750V dc third rail throughout	750V dc third rail throughout	750V dc third rail or 25kV overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
<b>Typical journey time (minutes)</b>	Cosham – Eastleigh All day: 29  Cosham – Southampton Central All day fast: 29 All day slow: 47	Cosham – Eastleigh All day: 29  Cosham – Southampton Central All day fast: 27 All day slow: 45	Cosham – Eastleigh All day: 29  Cosham – Southampton Central All day fast: 29 All day slow: 47	
<b>No. of trains per hour</b>	Up departures at Fareham Via Swanwick All day: 4  Via Botley AM Peak: 2 Off-peak: 1	Up departures at Fareham Via Swanwick All day: 4  Via Botley AM Peak: 2 Off-peak: 2	Up departures at Fareham Via Swanwick All day: 4  Via Botley AM Peak: 2 Off-peak: 2	

**Current Freight Trains (paths per day)**

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Cosham – St Denys/Eastleigh			
<b>Daily paths in one direction (as per WTT)</b>	2	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

**Level crossings on route**

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	4	As determined by Level Crossing policy	
<b>Automatic:</b>	0		
<b>User:</b>	1		

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

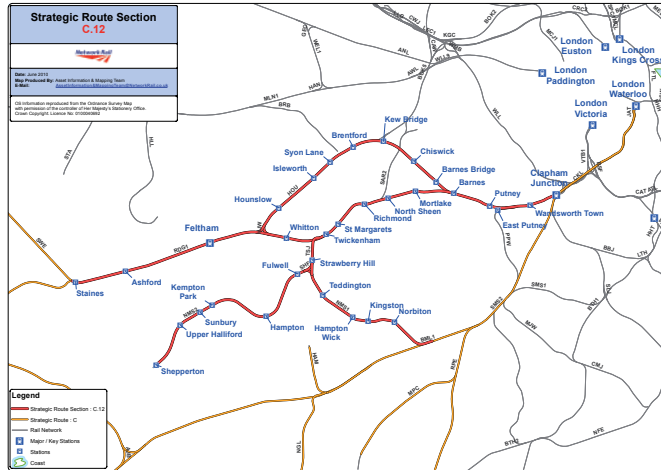
Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Eastleigh Down Yard land sale and reorganisation of yard	Allocation of space for commercial property sale by moving current operations to improved locations around the Down Yard site with passive provision for a new platform	EYD1 EYD2 EYD3 EYD4	CP5	Improves the Down Yard's operation, reserves space for additional platform and passenger entrance		In development
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.



# SRS C.12 Inner Windsor Lines

## Geographic Map



## Route specification description

The Inner Windsor lines, which encompasses lines to Shepperton, Staines (via Hounslow or Richmond), and Kingston (via Richmond) is two track railway. The strategic route section is DC electrified and contains a high number of level crossings.

The route is characterised by a large number of stations. The area is densely populated and as a result contains a succession of small stations. The high number of stations along the route means journey times are relatively slow considering the distance in miles. Richmond station operates through services by SSWT but is also a terminating station for London Underground District Line and LOROL services to Stratford. This route section and its stations are illustrated in the adjacent map.

Services are operated to and from London Waterloo by SSWT and are heavily used by commuters in the peak periods.

Platform 20 at Waterloo, in the former international terminal, was bought into use in CP4. Upon its completion the number of services on the Windsor lines has increased by one extra high-peak train (an overall increase from 15 to 16 trains in the high-peak hour). The provision of additional services via Richmond in CP5 is constrained by level crossing down times between Barnes and Richmond. Therefore two additional services in CP5 will utilise the Hounslow Loop. Service frequency and journey times are listed below.

In CP4, in line with L&SE RUS recommendations, additional capacity was provided on this line through the introduction of 10-car capability on the Windsor lines and limited main suburban 10-car capability on services timetabled into platforms 5 & 6 at Waterloo. The final piece of work to facilitate full 10-car main suburban operation into Waterloo will be delivered in CP5.

The Long Term Planning Process (LTPP), specifically the Wessex Route Study, has investigated the conditional outputs for suburban capacity and connectivity to 2043, which includes the investigation of 12-car operation.

Planned and proposed infrastructure investments are detailed in Table 5.0 below. There are currently two major schemes that will have an impact on this section. The first is the Reading to Waterloo

10-car capability scheme and the power supply upgrade works associated with delivering an increase in capacity. This scheme will see the ability of all Reading services to increase in length from 8-car to 10-car. Funding has been secured for delivery in CP5 and once delivered will result in full 10-car suburban operations. The second is the opening of Waterloo international terminal platforms 21 to 24 for domestic use, which is expected to be delivered in CP5 through the Waterloo Capacity Programme. This will provide additional services on the Windsor lines through the segregation of the Windsor platforms into the former international terminal.

In addition phase one of the South London HV aims to expand the capability of the Wimbledon grid traction power system to facilitate the reliable operation of future enhanced capacity.

There are various renewals works planned throughout CP5 as part of Network Rail's National Operating Strategy to consolidate signalling control, that will see the control of signalling in part of this strategic route section consolidated at Basingstoke Rail Operating Centre. In particular in CP5 the signalling assets in the Feltham area will be re-signalled and re-controlled. This may include a number of infrastructure enhancements in the area where it is deemed efficient to deliver them as part of this project.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
<b>Line of route description</b>	SW210: Clapham Junction to Southcote Junction (via Reading) SW230: Barnes to Feltham Junction (via Hounslow) SW245: Twickenham to Shacklegate Junction SW190: New Malden to Shepperton			
<b>Section start</b>	Clapham Junction/New Malden			
<b>Section end</b>	Staines/Hounslow/Shepperton			
<b>Route availability</b>	4,6,8	4,6,8	4,6,8	
<b>Gauge</b>	W6, W7, W9	W6, W7, W9	W6, W7, W9	Consideration should be given to the feasibility of providing passive provision for future AC electrification
<b>Signals</b>	Track circuit block	Track circuit block	European Train Control System (ETCS)	
<b>Speed</b> See Sectional Appendix for detailed speed profiles	60mph 70mph Feltham Jn - Staines	60mph 70mph Feltham Jn - Staines  (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
<b>Electrification</b>	750V dc third rail throughout	750V dc third rail or 25kV overhead	750V dc third rail or 25kV overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
<b>Typical journey time (minutes)</b>	<p>Hounslow – Clapham Junction All day: 27</p> <p>Staines – Clapham Junction (via Twickenham) All day Fast: 24 All day Stopper: 30</p> <p>Twickenham – New Malden All day: 21</p> <p>Shepperton – New Malden All day: 29</p>	<p>Hounslow – Clapham Junction All day: 27</p> <p>Staines – Clapham Junction (via Twickenham) All day Fast: 24 All day Stopper: 30</p> <p>Twickenham – New Malden All day: 21</p> <p>Shepperton – New Malden All day: 29</p>	<p>Hounslow – Clapham Junction All day: 27</p> <p>Staines – Clapham Junction (via Twickenham) All day Fast: 24 All day Stopper: 30</p> <p>Twickenham – New Malden All day: 21</p> <p>Shepperton – New Malden All day: 29</p>	
<b>No. of trains per hour</b>	<p>Up departures from Hounslow All day: 4-5</p> <p>Up departures from Twickenham AM Peak: 10 Off-peak: 8</p> <p>Up departures from Kingston AM Peak: 6 Off-peak: 4</p>	<p>Up departures from Hounslow All day: 8</p> <p>Up departures from Twickenham AM Peak: 10 Off-peak: 8</p> <p>Up departures from Kingston AM Peak: 6 Off-peak: 4</p>	<p>Up departures from Hounslow All day: 8</p> <p>Up departures from Twickenham AM Peak: 10 Off-peak: 8</p> <p>Up departures from Kingston AM Peak: 6 Off-peak: 4</p>	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Staines – Old Kew Junction			
<b>Daily paths in one direction (as per WTT)</b>	6	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	10	As determined by Level Crossing policy	
<b>Automatic:</b>	0		
<b>User:</b>	4		

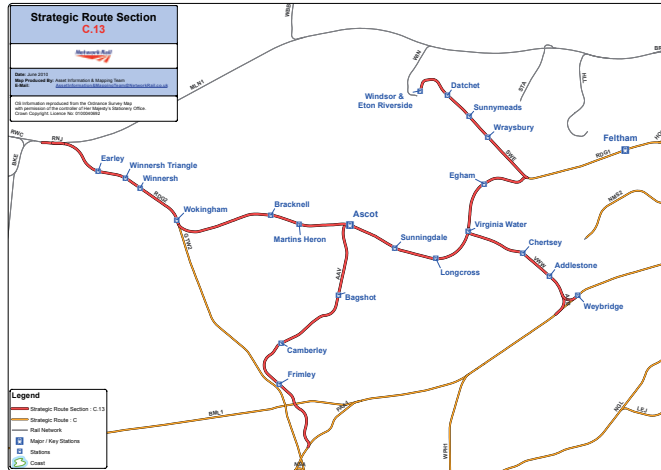
## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Waterloo Capacity Programme	Platform lengthening, integration of Waterloo international terminal for domestic use and other associated works to facilitate increased capacity on the Wessex Route	BML1 RDG1 JAT	CP5 Project	Improved passenger flow, longer trains and a more flexible layout		In development
Reading to Waterloo 10-car capability	Platform extensions and other associated works	RDG1	CP5 project	Longer trains		In development
Feltham resignalling scheme	Renewal of signalling in the Feltham areas signalling centre area	RDG1, AAV VWW, SWE HOU, HJW SHF, SJ NMS	2016/17	Renewed asset		In development
South London HV (Wimbledon) Grid Upgrade	To expand the capability of the Wimbledon grid traction power system to facilitate the reliable operation of future capacity	RDG1 HOU SHF TSJ NMS1 NMS2	CP5 project	Improved capability and reliability of traction power system		In development
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 Project	Centralised control of signalling activity		In development
CP5 Traction Power Supply Upgrade	To provide sufficient traction power supply infrastructure to facilitate the introduction of 10-car Reading to Waterloo services	RDG1	CP5 Project	Upgraded power supply infrastructure		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.

\* 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.

## Geographic Map



## Route specification description

The outer Windsor lines, comprising lines to Windsor, Reading, Frimley and Weybridge via Chertsey, are two track railway and categorised as London and South East commuter. The entire strategic route section is DC electrified and contains a high number of level crossings.

The area is densely populated and as a result contains a succession of small stations. Journey times are relatively slow as services stop at most stations. This route section and its stations are illustrated in the adjacent map.

Services from Reading, Windsor and Weybridge via Chertsey to Waterloo are half hourly and operated by SSWT. Services run via Frimley to Ascot and are not direct to Waterloo (except in the high-peak). A high number of commuters use these services in the peak periods. Service frequency and journey times are listed below.

Platform 20 at Waterloo, in the former international terminal, was bought into use in CP4. Upon its completion the number of services on the Windsor lines has increased by one extra high-peak train (an overall increase from 15 to 16 trains in the high-peak hour). The provision of additional services via Richmond in CP5 is constrained by level crossing down times between Barnes and Richmond. Therefore two additional services in CP5 will utilise the Hounslow Loop. Service frequency and journey times are listed below.

In CP4, in line with L&SE RUS recommendations, additional capacity was provided on this line through the introduction of 10-car capability on the Windsor lines and limited main suburban 10-car capability on services timetabled into platforms 5 & 6 at Waterloo. The final piece of work to facilitate full 10-car main suburban operation into Waterloo will be delivered in CP5.

The Long Term Planning Process (LTPP), specifically the Wessex Route Study, has investigated the conditional outputs for suburban capacity and connectivity to 2043, which includes the investigation of 12-car operation.

Planned and proposed infrastructure investments are detailed in Table 5.0 below. There are currently two major schemes that will have an impact on this section. The first is the Reading to Waterloo

10-car capability scheme and the power supply upgrade works associated with delivering an increase in capacity. This scheme will see the ability of all Reading services to increase in length from 8-car to 10-car. Funding has been secured for delivery in CP5 and once delivered will result in full 10-car suburban operations. The second is the opening of Waterloo international terminal platforms 21 to 24 for domestic use, which is expected to be delivered in CP5 through the Waterloo Capacity Programme. This will provide additional services on the Windsor lines through the segregation of the Windsor platforms into the former international terminal.

In addition phase one of the South London HV aims to expand the capability of the Wimbledon grid traction power system to facilitate the reliable operation of future enhanced capacity.

There are various renewals works planned throughout CP5 as part of Network Rail’s National Operating Strategy to consolidate signalling control, that will see the control of signalling in part of this strategic route section consolidated at Basingstoke Rail Operating Centre. In particular in CP5 the signalling assets in the Feltham area will be re-signalled and re-controlled. This may include a number of infrastructure enhancements in the area where it is deemed efficient to deliver them as part of this project.

Network Rail will continue to identify small schemes that will improve safety, performance, network availability and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
<b>Line of route description</b>	SW210: Clapham Junction to Southcote Junction (via Reading) SW250: Staines to Windsor & Eton Riverside SW255: Virginia Water to Weybridge SQW260: Ascot to Ash Vale Junction			
<b>Section start</b>	Staines			
<b>Section end</b>	Windsor & Eton Riverside/Reading/Weybridge/ Byfleet & New Haw/Ash Vale Jn			
<b>Route availability</b>	4,8	4,8	4,8	
<b>Gauge</b>	W6, W7, W8	W6, W7, W8	W6, W7, W8	Consideration should be given to the feasibility of providing passive provision for future AC electrification
<b>Signals</b>	Track circuit block	Track circuit block	European Train Control System (ETCS)	
<b>Speed</b> See Sectional Appendix for detailed speed profiles	Staines – Reading and Chertsey line: 70mph Windsor & Eton Riverside Branch and Camberley line: 60mph	Staines – Reading and Chertsey line: 70mph Windsor & Eton Riverside Branch and Camberley line: 60mph  (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
<b>Electrification</b>	750V dc third rail throughout	750V dc third rail or 25kV overhead	750V dc third rail or 25kV overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
<b>Typical journey time (minutes)</b>	<p>Windsor &amp; Eton Riverside – Staines All day: 14</p> <p>Reading – Staines AM Peak: 40 Off-peak: 46</p> <p>Ash Vale – Ascot AM Peak: 24 Off-peak: 26</p> <p>Weybridge – Staines AM Peak: 26 Off-peak: 29</p>	<p>Windsor &amp; Eton Riverside – Staines All day: 14</p> <p>Reading – Staines AM Peak: 40 Off-peak: 46</p> <p>Ash Vale – Ascot AM Peak: 24 Off-peak: 26</p> <p>Weybridge – Staines AM Peak: 26 Off-peak: 29</p>	<p>Windsor &amp; Eton Riverside – Staines All day: 14</p> <p>Reading – Staines AM Peak: 40 Off-peak: 46</p> <p>Ash Vale – Ascot AM Peak: 24 Off-peak: 26</p> <p>Weybridge – Staines AM Peak: 26 Off-peak: 29</p>	
<b>No. of trains per hour</b>	<p>Windsor &amp; Eton Riverside departures All day: 2</p> <p>Reading departures AM Peak: 4 Off-peak: 4</p> <p>Up departures at Camberley All day: 2</p> <p>Up departures at Virginia Water AM Peak: 8 Off-peak: 4</p>	<p>Windsor &amp; Eton Riverside departures All day: 2</p> <p>Reading departures AM Peak: 5 Off-peak: 4</p> <p>Up departures at Camberley All day: 2</p> <p>Up departures at Virginia Water AM Peak: 9 Off-peak: 4</p>	<p>Windsor &amp; Eton Riverside departures All day: 2</p> <p>Reading departures AM Peak: 6 Off-peak: 4</p> <p>Up departures at Camberley All day: 2</p> <p>Up departures at Virginia Water AM Peak: 10 Off-peak: 4</p>	



### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Byfleet & New Haw – Staines			
<b>Daily paths in one direction (as per WTT)</b>	4-5	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	10	As determined by Level Crossing policy	
<b>Automatic:</b>	2		
<b>User:</b>	5		

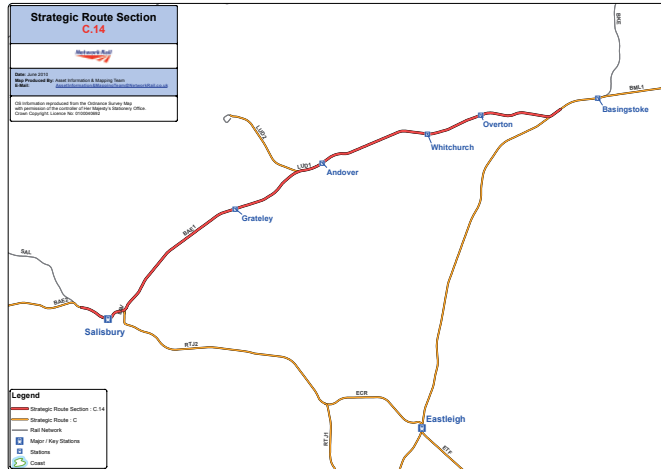
## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Reading to Waterloo 10-car	Platform lengthening and other associated works between Earley and Virginia Water	RDG1 RDG2 AAV	CP5 project	Longer trains		In development
Feltham resignalling scheme	Renewal of signalling in the Feltham areas signalling centre area to include recontrol of Wokingham area signalling	RDG1 AAV VWW SWE HOU HJW SHF TSJ NMS	2016/17	Renewed asset		In development
Waterloo Capacity Programme	Platform lengthening, integration of Waterloo international terminal for domestic use and other associated works to facilitate increased capacity on the Wessex Route	BML1 RDG1 JAT	CP5 Project	Improved passenger flow, longer trains and a more flexible layout		In development
CP5 Traction Power Supply Upgrade	To provide sufficient traction power supply infrastructure to facilitate the introduction of 10-car Reading to Waterloo services	RDG1 RDG2 AAV	CP5 Project	Upgraded power supply infrastructure		In development
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 Project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

# SRS C.14 Basingstoke – Salisbury

## Geographic Map



## Route specification description

This strategic route section, categorised as a London & South East commuter route, runs from Worting Junction to Wilton Junction, connecting the cities of Basingstoke and Salisbury. It is two track railway, with the exception of Salisbury station. There are four stations between Basingstoke and Salisbury. Between Andover and Grateley stations there is access to the Ludgershall MoD by a freight only branch line. The line diverges just before Salisbury at Laverstock North and South Junctions. The line passes through the 445 yard Fisherton Tunnel before reaching Salisbury. Salisbury Traincare Depot is located on the country side of Salisbury station, where the SSWT diesel fleet (Class 159 and Class 159) is maintained and berthed. This route section and its stations are illustrated in the adjacent map.

The line is not electrified however the Network RUS – Electrification, published October 2009, recommend this section for review to enable electric traction services from Waterloo to Salisbury and Exeter.

Services through this route section include passenger and freight flows. This is a key corridor for freight movement and CP4 end saw the delivery of the W12 gauge diversionary route. Following investment in a new loop at Axminster (see SRS C.15), passenger services operate between Basingstoke and Salisbury, half hourly from Waterloo. Of the two trains per hour from Waterloo, one terminates at Salisbury and the other continues through to Exeter. Service frequency and journey times are listed below.

Planned and proposed infrastructure investments are detailed below. The Wessex Route Study identified a capacity gap on the main line services into Waterloo from Andover. A solution to mainline capacity and crowding on this section is expected to be developed with delivery commencing in CP6 subject to available funding.

The Freight Market Study (part of the LTPP) has identified growth in the deep sea container market which will require an increase in capacity on the route between Southampton and the West Coast Main Line and could therefore necessitate works on this key diversionary route. This will be considered alongside or as part of

the Electric Spine Development programme.

Crowding has been addressed in CP4 at Basingstoke station. Network Rail will continue to monitor station congestion on this SRS and act accordingly in CP5.

There are various renewals works planned throughout CP5 as part of Network Rail's National Operating Strategy to consolidate signalling control, that will see the control of signalling in this strategic route section consolidated at Basingstoke Rail Operating Centre.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	SW115: Worting Junction to Exeter St Davids			
Section start	Worting Junction			
Section end	Salisbury			
Route availability	7,8	7,8	7,8	
Gauge	W7, W12	W12	W12	Consideration should be given to the feasibility of providing passive provision for future AC electrification
Signals	Track circuit block	Track circuit block	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	90mph	90mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	None	None or 25kV ac overhead	25kV ac overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	Salisbury – Basingstoke AM Peak: 43 Off-peak fast: 34 Off-peak stopper: 41	Salisbury – Basingstoke AM Peak: 43 Off-peak fast: 34 Off-peak stopper: 41	Salisbury – Basingstoke AM Peak: 41 Off-peak fast: 32 Off-peak stopper: 39	
No. of trains per hour	Up direction at Salisbury AM Peak: 6 Off-peak: 4	Up direction at Salisbury AM Peak: 6 Off-peak: 4	Up direction at Salisbury AM Peak: 6 Off-peak: 4	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Basingstoke – Ludgershall/Laverstock Loop/Salisbury			
<b>Daily paths in one direction (as per WTT)</b>	6 – 8	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	0	As determined by Level Crossing policy	
<b>Automatic:</b>	0		
<b>User:</b>	6		

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 Project	Centralised control of signalling activity		In development

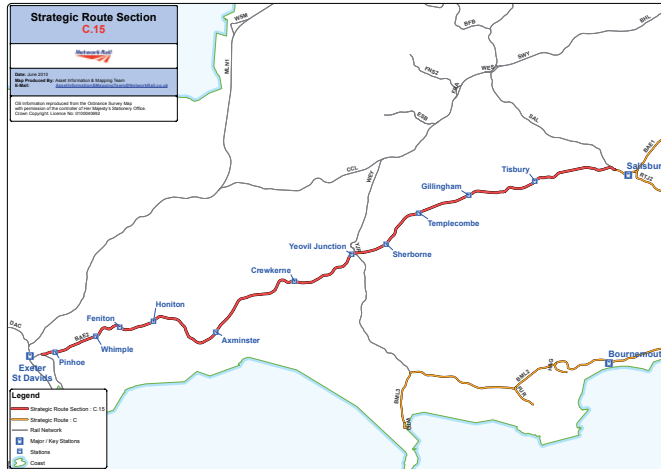
\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* The precise timing and scope of renewals will remain subject to review to enable us to meet our overall obligations as efficiently as possible, consistent with the reasonable requirements of operators and other stakeholders.

# SRS C.15 Salisbury – Exmouth Junction

March 2016

Network Rail – Route Specifications: Wessex 63

## Geographic Map



## Route specification description

This strategic route section, categorised as a secondary route, runs from Wilton Junction to Exmouth Junction, connecting the cities of Salisbury and Exeter. There are eleven stations between the two cities. This route section and its stations are illustrated in the adjacent map.

Wilton South Junction to Templecombe is single line, with passing loops at Tisbury and Gillingham, from Templecombe to Yeovil Junction the line continues as two track railway. Yeovil Junction to Pinhoe is again single line, with a passing loop at Chard, Axminster and Honiton. The route continues as two track railway from Pinhoe to Exeter St Davids. The line to Westbury diverges from this section at Wilton Junction. The ‘Heart of Wessex’ line passes under this line in the Yeovil Junction area.

This line provides an important diversionary route for First Great Western (FGW) services when the line between Exeter and Taunton is closed, particularly when due to adverse weather conditions and flooding.

The line is not electrified however the Network RUS – Electrification, published October 2009, recommend this section for review to enable electric traction services from Waterloo to Salisbury and Exeter.

Following investment in a new loop at Axminster, passenger services operate between Basingstoke and Salisbury, half hourly from Waterloo. Service frequency and journey times are listed below.

FGW services between Portsmouth and Cardiff and between Southampton and Great Malvern/Bristol Temple Meads, as well as SSWT services to Bristol Temple Meads cross this section to utilise the line to Westbury.

Planned and proposed infrastructure investments are detailed below.

The Wessex Route Study identified no capacity gap on main line services on this route in the period forecast to 2043. However, London-bound services from destinations on this section will benefit from investigations undertaken as part of the Long Term Planning

Process, and in particular the Wessex Route Study, to address journey times, electrification and diversionary capability.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route.

There are various renewals works planned throughout CP5 as part of Network Rail’s National Operating Strategy to consolidate signalling control, that will see the control of signalling in this strategic route section consolidated at Basingstoke Rail Operating Centre.

## Route capability overview

Information	Current	2019	2043	Notes
<b>Line of route description</b>	SW115: Worting Junction to Exeter St Davids			
<b>Section start</b>	Salisbury			
<b>Section end</b>	Exmouth Jn			
<b>Route availability</b>	6,7,8	6,7,8	6,7,8	
<b>Gauge</b>	W6, W7,	W6, W7,	W6, W7,	Consideration should be given to the feasibility of providing passive provision for future AC electrification
<b>Signals</b>	Salisbury: Track Circuit Block  Wilton South Junction – Chard: Tokenless block  Chard – Axminster: Track circuit block  Honiton – Exmouth Junction: Tokenless block	Track circuit block	European Train Control System (ETCS)	
<b>Speed</b> See Sectional Appendix for detailed speed profiles	85mph	85mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
<b>Electrification</b>	None	None	25kV ac overhead	

## Passenger train service levels (trains per hour/day)

	Current	2019	2043	Notes
<b>Typical journey time (minutes)</b>	Exeter St Davids – Salisbury All day: 110	Exeter St Davids – Salisbury All day: 110	Exeter St Davids – Salisbury All day: 110	
<b>No. of trains per hour</b>	Up departures at Yeovil Junction AM Peak: 2 Off-peak: 1	Up departures at Yeovil Junction AM Peak: 2 Off-peak: 1	Up departures at Yeovil Junction AM Peak: 2 Off-peak: 1	



**Current Freight Trains (paths per day)**

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Salisbury – Wilton Junction			
<b>Daily paths in one direction (as per WTT)</b>	2	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

**Level crossings on route**

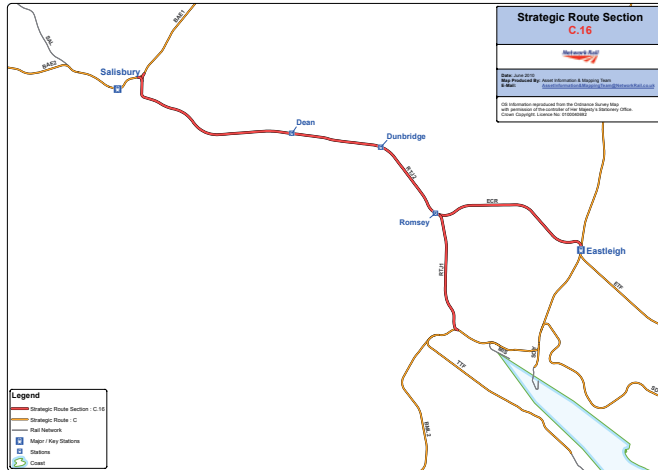
Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	5	As determined by Level Crossing policy	
<b>Automatic:</b>	9		
<b>User:</b>	42		

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 Project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

## Geographic Map



## Route specification description

This strategic route section, categorised as a secondary route, connects Redbridge and Eastleigh with Romsey, Salisbury and the West of England. Redbridge to Salisbury is a two-track railway, whereas Eastleigh to Romsey is mainly single line. The strategic route section is not electrified. There are two stations between Romsey and Salisbury and one between Eastleigh and Romsey. This route section and its stations are illustrated in the adjacent map.

Services through this section include passenger and freight flows. This is a key corridor for freight movement and CP4 end saw the delivery of the W12 gauge diversionary route from Southampton to West Coast Main Line via Andover. Passenger services on this route are operated by Stagecoach South West Trains, including local services from Salisbury to Romsey via Southampton and Eastleigh (“figure of six” services), and First Great Western, including services to Cardiff Central from Portsmouth Harbour and services to Bristol Temple Meads and Great Malvern from Southampton. Service frequency and journey times are listed below.

Planned and proposed infrastructure investments are detailed below.

The Wessex Route Study identified no capacity gap on the main line services on this route in the period forecast to 2031. There are aspirations to improve capacity and connectivity on local services within the area. These are likely to require the re-doubling of the single line section between Eastleigh and Romsey.

However, services from destinations on this section will benefit from investigations undertaken as part of the Long Term Planning Process, and in particular the Wessex Route Study, to address journey times and electrification.

The Freight Market Study (part of the LTPP) has identified growth in the deep sea container market which will require an increase in capacity on the route between Southampton and the West Coast Main Line and could therefore necessitate works on this key diversionary route. This will be considered alongside or as part of

the Electric Spine Development programme.

There are various renewals works planned throughout CP5 as part of Network Rail’s National Operating Strategy to consolidate signalling control, that will see the control of signalling in this strategic route section consolidated at Basingstoke Rail Operating Centre.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
<b>Line of route description</b>	SW150: Redbridge to Salisbury Tunnel Junction SW130: Eastleigh to Romsey			
<b>Section start</b>	Redbridge/Eastleigh			
<b>Section end</b>	Salisbury Tunnel Junction/Laverstock North Junction			
<b>Route availability</b>	8	8	8	
<b>Gauge</b>	W12	W12	W12	Consideration should be given to the feasibility of providing passive provision for future AC electrification
<b>Signals</b>	Track circuit block	Track circuit block	European Train Control System (ETCS)	
<b>Speed</b> <a href="#">See Sectional Appendix for detailed speed profiles</a>	Redbridge – Laverstock South Junction: 85mph Eastleigh – Romsey: 60mph (passenger) 35mph (freight)	Redbridge – Laverstock South Junction: 85mph Eastleigh – Romsey: 60mph (passenger) 35mph (freight); (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
<b>Electrification</b>	None	None or 25kV ac overhead	25kV ac overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
<b>Typical journey time (minutes)</b>	Southampton – Salisbury (via Test Valley) AM Peak fast: 37 Off-peak fast: 30 All day stopper: 38  Eastleigh – Romsey All day: 13	Southampton – Salisbury (via Test Valley) AM Peak fast: 37 Off-peak fast: 30 All day stopper: 38  Eastleigh – Romsey All day: 13	Southampton – Salisbury (via Test Valley) AM Peak fast: 37 Off-peak fast: 30 All day stopper: 38  Eastleigh – Romsey All day: 13	
<b>No. of trains per hour</b>	Up departures from Romsey All day: 3	Up departures from Romsey All day: 3	Up departures from Romsey All day: 3	

### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	At Romsey			
<b>Daily paths in one direction (as per WTT)</b>	9 – 10	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	0	As determined by Level Crossing policy	
<b>Automatic:</b>	5		
<b>User:</b>	12		

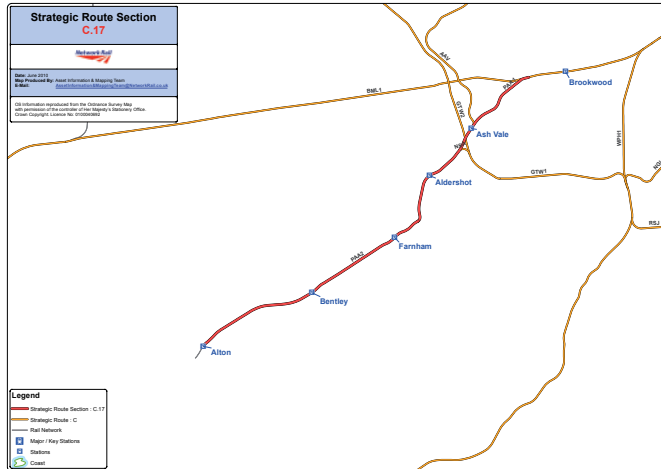
## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 Project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

# SRS C.17 Brookwood – Alton

## Geographic Map



## Route specification description

This strategic route section, categorised as London & South East Commuter, runs from Alton to Pirbright Junction. It connects at Pirbright Junction with the South West Main Line, the primary route into Waterloo. The track is single line from Alton to Farnham, with the exception of a passing loop at Bentley, which was extended in CP4 alongside some signalling alterations. From Farnham to Pirbright Junction the line is two track railway. The line diverges towards Guildford at Aldershot North Junction and towards Frimley at Ash Vale Junction. The entire strategic route section is electrified.

There are four stations between Alton and Brookwood. These are Bentley, Farnham, Aldershot and Ash Vale. This route section and its stations are illustrated in the adjacent map.

Services through this section include passenger and freight flows. On the country side of Farnham station there is an EMU depot for overnight berthing of passenger vehicles. Freight services from Fawley use this line to access Holybourne Oil Sidings which are approximately two miles away from Alton station off the single line.

Alton Station provides an interchange with the Mid-Hants Railway (a heritage railway).

The Stagecoach South West Trains passenger service from Alton to Waterloo operates every half hour. In addition there is also a half hourly service from Ascot to Guildford that serves Aldershot, where it reverses before diverging off the section at Ash Vale Junction on to the 'Frimley Single'. Service frequency and journey times are listed below.

Planned and proposed infrastructure investments are detailed below. There are various renewals works planned throughout CP5 as part of Network Rail's National Operating Strategy to consolidate signalling control, that will see the control of signalling in this strategic route section consolidated at Basingstoke Rail Operating Centre.

The Wessex Route Study identified a gap on main line services into Waterloo, for which options are proposed. The Long Term Planning Process and in particular the Wessex Route Study has investigated conditional outputs to address capacity, connectivity and improved

journey times from stations on this line to Waterloo and other destinations (i.e Guildford).

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	SW120: Pirbright Junction to Alton			
Section start	Pirbright Junction			
Section end	Alton			
Route availability	7,8	7,8	7,8v	
Gauge	W6	W6	W6	Consideration should be given to the feasibility of providing passive provision for future AC electrification
Signals	Pirbright Junction – Ash Vale: Track circuit block  Aldershot – Farnham: Absolute block  Farnham – Alton: Track circuit block	Pirbright Junction – Ash Vale: Track circuit block  Aldershot – Farnham: Absolute block  Farnham – Alton: Track circuit block	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	70mph	70mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	750V dc third rail throughout	750V dc third rail throughout	750V dc third rail or 25kV overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	Alton – Brookwood All day: 32	Alton – Brookwood All day: 32	Alton – Brookwood All day: 32	
No. of trains per hour	Up direction at Aldershot AM Peak: 10 Off-peak: 8	Up direction at Aldershot AM Peak: 10 Off-peak: 8	Up direction at Aldershot AM Peak: 10 Off-peak: 8	



### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Aldershot – Holybourne			
<b>Daily paths in one direction (as per WTT)</b>	1	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

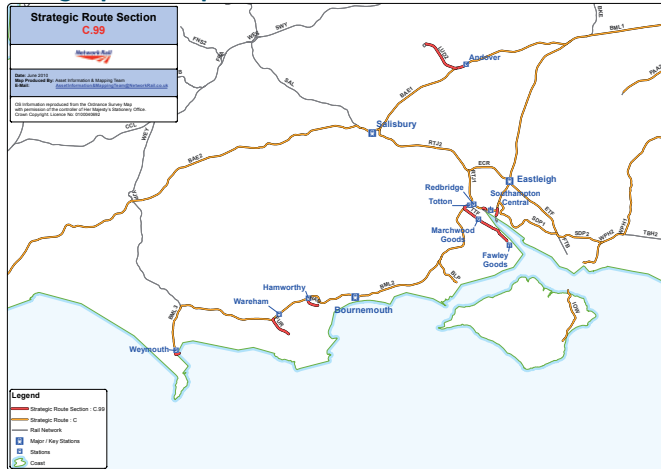
Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	1	As determined by Level Crossing policy	
<b>Automatic:</b>	0		
<b>User:</b>	1		

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 Project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

## Geographic Map



## Route specification description

Other freight lines are the lines off, but connected to, the main network where only freight services currently operate. Collectively they are listed as ‘Other freight lines’.

There are six other freight lines on the Wessex route, none are currently electrified. These lines run from Andover to Ludgershall, Wareham to Furzebrook, Poole to Hamworthy Goods, Totton to Fawley, Millbrook to Southampton Western Docks and Northam to Southampton Eastern Docks. All of these lines are currently in use to freight traffic. These branch lines are illustrated in the adjacent map.

The main Freight Operating Companies (FOC) using these freight lines include: DB Schenker (DBS); Freightliner (FL) and GB Rail Freight (GBRf).

There is a significant volume of freight traffic on the Wessex route, particularly intermodal and automotive flows from the Port of Southampton, in addition to petroleum, aggregates and Ministry of Defence (MoD) flows. Service frequency and journey times are listed below.

Planned and proposed infrastructure investments are detailed below. Schemes that have been delivered in CP4 which although not specific to these branches have a direct effect on freight services include W10 gauge clearance from Southampton to the West Coast Main Line and W12 gauge clearance of the diversionary route via Andover.

There are no new significant schemes in development on the freight lines themselves but significant schemes have and are being developed that affect freight on the Wessex route.

In Spring 2015 the Eastern Docks Additional Standage project will see the installation of an additional signal at Northam to facilitate the operation of full length automotive freight trains out of the Eastern Docks branch. These services currently have to exit the docks in two parts and recouple at Eastleigh. This will therefore provide an additional path out of the docks.

Schemes currently in delivery are to allow 662m/775m long freight trains, including the extension of a loop at Eastleigh, and the

development of options to allow more freight paths. These will facilitate freight growth from the ports of Southampton.

The Freight Market Study (part of the LTPP) has identified growth in the deep sea container market which will require an increase in capacity on the route between Southampton and the West Coast Main Line. This will be considered alongside or as part of the Electric Spine Development programme.

There are various renewals works planned throughout CP5 as part of Network Rail’s National Operating Strategy to consolidate signalling control, that will see the control of signalling in this strategic route section consolidated at Basingstoke Rail Operating Centre.

Network Rail will continue to identify small schemes that will improve safety, performance, network availability and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	SW145: Northam Junction to Canute Road			
Section start	Northam Junction			
Section end	Canute Road			
Route availability	8	8	8	
Gauge	W12	W12	W12	
Signals	Track circuit block	Track circuit block	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	25/30 mph	25/30 mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	None	None	None	Future AC electrification under consideration

## Current Freight Trains (paths per day)

Table 2.0				
	Current	2019	2043	Notes
Route section	Northam Junction – Canute Road			
Daily paths in one direction (as per WTT)	2 – 3	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	

\* Figures are for freight trains in one direction only on an average weekday.

## Level crossings on route

Table 3.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
Supervised:	0	As determined by Level Crossing policy	
Automatic:	2		
User:	0		

## Route capability overview

Table 4.0				
Information	Current	2019	2043	Notes
Line of route description	SW155: Totton to Fawley			
Section start	Totton			
Section end	Fawley			
Route availability	8	8	8	
Gauge	W6a	W6a	W12*	*Subject to Dibden Bay Container Port being constructed. Consideration should be given to the feasibility of providing passive provision for future AC electrification should Dibden Bay go ahead.
Signals	Track circuit block/No Signalman Token	Track circuit block/No Signalman Token	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	30 mph	30 mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	None	None	None	Electrification subject to Dibden Bay Container Port being constructed.

## Current Freight Trains (paths per day)

Table 5.0				
	Current	2019	2043	Notes
Route section	Totton – Marchwood			
Daily paths in one direction (as per WTT)	4	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	

\* Figures are for freight trains in one direction only on an average weekday.

## Level crossings on route

Table 6.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
Supervised:	2	As determined by Level Crossing policy	
Automatic:	7		
User:	6		

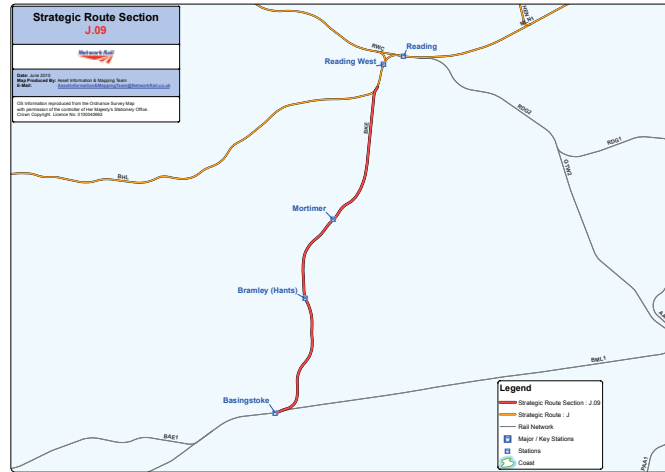
## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 7.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Eastern Docks Additional Standage	The installation of an additional signal to facilitate full length automotive freight trains to exit the docks without fouling the level crossing and having to exit in two parts	SOY	Late 2014	Improved operation of automotive traffic and an additional path out of the docks branch		In delivery
Freight Train Lengthening (Extension of Eastleigh Loop)	Extension of loop for 662/775m freight services to allow longer trains to operate out of Southampton Docks	BML1	CP5 Project	Provides a location to hold longer freight trains in times of disruption or for bypassing purposes		In delivery
National Operating Strategy (Basingstoke Rail Operating Centre)	Consolidation of all signalling and control activity into the Basingstoke ROC		CP5 Project	Centralised control of signalling activity		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

# SRS J.09 Reading – Basingstoke

## Geographic Map



## Route specification description

This strategic route section covers the area from Basingstoke to Southcote Junction. This section is two track railway, the up and down Reading lines, none of which are currently electrified. There are two stations after Basingstoke in this section, they are Bramley and Mortimer. This route section and its stations are illustrated in the adjacent map.

Services from Basingstoke to Reading include passenger and freight flows. This is a key corridor for freight movement, particularly for services accessing the West Coast Main Line. First Great Western operate a “shuttle” service throughout the day between Reading and Basingstoke. CrossCountry operate services between Bournemouth/Southampton and destinations in the Midlands and North. Service frequency and journey times are listed below.

The section has seen the completion of gauge enhancement work to W10 clearance. A scheme to increase freight capacity by way of longer intermodal freight trains, allowing operation of 662m/775m trains is in delivery.

Planned and proposed infrastructure investments are detailed below.

The Great Western Route Study identified a capacity gap on services from Basingstoke to Reading in the morning peak. The HLOS response submitted by First Great Western (FGW) to a Request for Proposal by the Department for Transport includes provision for train lengthening on the Basingstoke corridor. These additional vehicles resolve the expected crowding in 2019 on the suburban services, the resultant crowding remains on the long distance CrossCountry services into Reading.

Two potential new stations have been proposed for this route section. These are at Chineham, near Basingstoke, and Green Park, near Reading.

Crowding has been addressed in CP4 at Basingstoke station. Network Rail will continue to monitor station congestion on this SRS and act accordingly in CP5.

Electrification of the route from Southcote Junction near Reading to Basingstoke (as part of the Electric Spine) will enable more efficient

operation of passenger services on the route through electric traction. It is also an important step towards enabling ‘Cross Country’ passenger services and freight to operate electrically in the future.

The Freight Market Study (part of the LTPP) has identified growth in the deep sea container market which will require an increase in capacity on the route between Southampton and the West Coast Main Line. This will be considered alongside or as part of the Electric Spine Development programme.

There are various renewals works planned throughout CP5 as part of Network Rail’s National Operating Strategy to consolidate signalling control, that will see the control of signalling in this strategic route section consolidated at Basingstoke Rail Operating Centre.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time on the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	SW125: Southcote Junction to Basingstoke			
Section start	Southcote Junction			
Section end	Basingstoke			
Route availability	8	8	8	
Gauge	W8	W8	W8	Consideration should be given to the feasibility of providing passive provision for future AC electrification
Signals	Track circuit block	Track circuit block	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	75mph	75mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	None	None	25kV ac overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	Warminster to Salisbury All day 20-21	Warminster to Salisbury All day : 20-21	Warminster to Salisbury All day 20-21	No stopping points
No. of trains per hour	Up departures AM Peak: 1 Off-peak: 1-2-	Up departures AM Peak: 3 Off-peak: 3 – 4	Up departures AM Peak: 4 Off-peak: 4 – 5	AM Peak defined as arrivals in to Salisbury between 08.00 and 08.59



### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Reading – Basingstoke			
<b>Daily paths in one direction (as per WTT)</b>	40	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	0	As determined by Level Crossing policy	
<b>Automatic:</b>	1		
<b>User:</b>	4		

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Reading to Basingstoke Electrification	AC Electrification as part of the Electric Spine Programme	BKE	CP5 project (subject to further development)	This provides electrification of the route from Southcote Junction near Reading to Basingstoke enabling more efficient operation of passenger services on the route through electric traction. It is also an important step towards enabling 'Cross Country' passenger services and freight to operate electrically in the future.		In development

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

## Geographic Map

### Route specification description

The line between Salisbury and Warminster forms part of the Westbury line and is approximately 20 miles in length. There are two tracks between Salisbury and Warminster, starting as the Up Main and Down Main lines before changing to the Up Warminster (Up Westbury) and the Down Warminster (Down Westbury) at Wilton Junction. Just short of Warminster the track leaves the Wessex Route and enters the Western Route. This route section is non-electrified throughout.

The route, outlined in the map to the left, consists of a large number of level crossing of varying operational system, it contains no operational stations but has other key features. There is a reception line at Salisbury Station leading into Salisbury Traincare Depot. Salisbury Traincare Depot is the home of the SWT diesel fleet. In addition just beyond Wilton Junction there is a turnout for Quidhampton Quarry Sidings which is currently non in regular use but may be used for waste from major construction projects such as HS2.

Salisbury has four operational platforms, with a currently unused Platform 1 accessed via the Reception Line. Platform 5 is a bay platform that is currently unused by passenger services.

There is limited amount of freight traffic on this section of line. The majority of freight is related to aggregate traffic although the Ministry of Defence (MoD) also use this section for military transport out of Beechgrove Sidings (just over the boundary in Western Route).

The linear nature of the West of England line means that there is significantly more rainfall west of Salisbury than over the east end of this route section. The topography of the railway west of Salisbury means that there are more embankments and cuttings per route mile than the rest of the Route, and therefore the impact of poor weather is identified as a key risk.

The Long Term Planning Process (LTPP), specifically the Wessex Route Study, published in August 2015, predicted growth in regional

services, on this line, particularly between Swindon and the South Coast.

Signalling refurbishment and recontrol was undertaken in the Salisbury Signalling Area during CP4. This SRS will also see a number of targeted renewals delivered throughout CP5. The National Operating Strategy will migrate the control of all signalling, across the whole Wessex Route, to the Basingstoke Rail Operating Centre (ROC). This programme will be progressed through CP6 and beyond as per the national strategy.

Full renewal of the line at Salisbury is to take place to eliminate temporary speeds that are necessitated during hot weather.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey time across the route.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description				
Section start	Salisbury			
Section end	Warminster			
Route availability	8	8	8	
Gauge	W8	W8	W8	Consideration should be given to the feasibility of providing passive provision for future AC electrification
Signals	Track circuit block	Track circuit block	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	75mph	75mph	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	None	25kV ac overhead	25kV ac overhead	

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	Salisbury to Warminster All day fast: All day stopper:	Salisbury to Warminster All day fast: All day stopper:	Salisbury to Warminster All day fast: All day stopper:	
No. of trains per hour	Up departures from AM Peak: Off-peak:	Up departures from AM Peak: Off-peak:	Up departures from AM Peak: Off-peak:	

## Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
Route section	Salisbury – Warminster			
Daily paths in one direction (as per WTT)		4	5	
* Figures are for freight trains in one direction only on an average weekday.				

## Level crossings on route

Table 4.0				
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings	
Supervised:	0	As determined by Level Crossing policy		
Automatic:	3			
User:	11			

## Proposed infrastructure investment in Control Period 5 (2014 – 2019)\*

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status
Basingstoke ROC Migration	ROC Consolidation, with signalling operations moving to Basingstoke, the Salisbury – Exeter panel and Salisbury signal box will be relocated in 2016		CP5 project (subject to further development)	This project will consolidate signalling operations to one place in order to make operations more streamlined and use the most up to date and secure technology for signalling, paving the way for ETCS.		In development

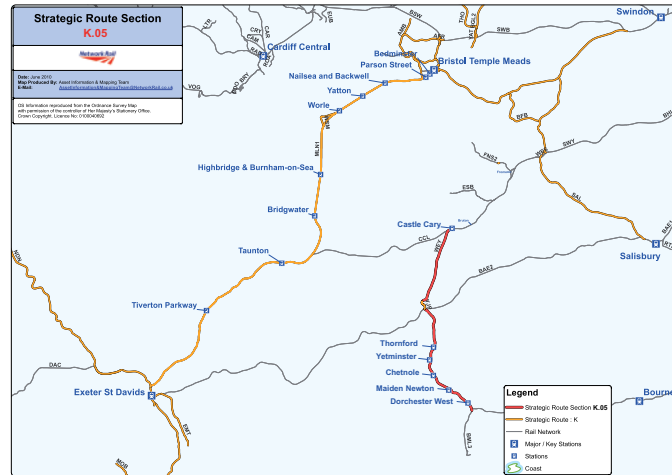
\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* The precise timing and scope of renewals will remain subject to review to enable us to meet our overall obligations as efficiently as possible, consistent with the reasonable requirements of operators and other stakeholders.

# SRS K.05 Castle Cary – Dorchester

March 2016

Network Rail – Route Specifications: Wessex 87

## Geographic Map



## Route specification description

This strategic route section runs from Castle Cary station to Dorchester Junction and is categorised as a rural route. The route section is single line, with passing loops at Yeovil Pen Mill, Maiden Newton and Dorchester West. There are a high number of level crossings on the section. Although the line connects with the DC network at Dorchester it is not electrified. This route section and its stations are illustrated in the adjacent map.

The line serves five intermediate stations with Yeovil being the largest settlement. Yeovil is also served by the London – Salisbury – Exeter route, though a separate station exists in the town for this line (there is no direct interchange between the two stations). Service frequency and journey times are listed below. During the summer months in recent years the line has supported local hauled services replacing some DMU diagrams. This enables a seasonal increase in carrying capacity on some trains. The line is used by heritage charter trains to allow trains into Weymouth to turn around for the return journey. There are no freight operations within this strategic route section.

A significant volume of track renewals on the route were delivered during CP4 in order to allow loco hauled services to continue to operate on the route at their published linespeed. During the course of this work, any opportunities to increase the linespeed on sections where PSRs are in place were investigated.

Planned and proposed infrastructure investments are detailed below. There are various renewals works planned throughout CP5 as part of Network Rail's National Operating Strategy to consolidate signalling control, that will see the control of signalling in this strategic route section consolidated at Basingstoke Rail Operating Centre.

Network Rail will continue to identify small schemes that will improve safety, network availability, performance and journey times on the section.

## Route capability overview

Table 1.0				
Information	Current	2019	2043	Notes
Line of route description	SW175: Castle Cary to Dorchester Junction			
Section start	Castle Cary Junction			
Section end	Dorchester Junction			
Route availability	4, 6	4, 6	4, 6	
Gauge	W6	W6	W6	
Signals	Track Circuit Block at Castle Cary and Dorchester Junction No signalman token with remote loops	Track Circuit Block at Castle Cary and Dorchester Junction No signalman token with remote loops	European Train Control System (ETCS)	
Speed See Sectional Appendix for detailed speed profiles	75mph	75mph (although PSRs should be removed where efficient to do so as part of a renewal)	Raise linespeed to highest possible with ETCS	ETCS subject to roll out programme
Electrification	None	None	None	See Network RUS: Electrification

## Passenger train service levels (trains per hour/day)

Table 2.0				
	Current	2019	2043	Notes
Typical journey time (minutes)	Castle Cary – Dorchester West 47 minutes	Castle Cary – Dorchester West 47 minutes	Castle Cary – Dorchester West 47 minutes	
No. of trains per hour	Up departures from Castle Cary 8 (approximately 2-hourly)	Up departures from Castle Cary 8 (approximately 2-hourly)	Up departures from Castle Cary 10 (approximately 2-hourly)	



### Current Freight Trains (paths per day)

Table 3.0				
	Current	2019	2043	Notes
<b>Route section</b>	Castle Cary – Dorchester Junction			
<b>Daily paths in one direction (as per WTT)</b>	0	As per forecasts in the Freight Market Study	As per forecasts in the Freight Market Study	
* Figures are for freight trains in one direction only on an average weekday.				

### Level crossings on route

Table 4.0			
Type	Current No. of level crossings	2019 No. of level crossings	2043 No. of level crossings
<b>Supervised:</b>	0	As determined by Level Crossing policy	
<b>Automatic:</b>	0		
<b>User:</b>	11		

**Proposed infrastructure investment in Control Period 5 (2014 – 2019)\***

Table 5.0						
Project	Project Description	ELR	Implementation Date	Output change	Notes	Status

\* In addition to the proposed enhancement programme, this table includes other Network Rail funded schemes, renewals and third party schemes where applicable.  
 \* 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.

Term	Meaning
<b>25kV ac</b>	25,000 Volts alternating current electricity power supply using overhead line equipment. Widely used on the rest of the network
<b>750V dc</b>	750 Volts direct current electricity power supply by top contact, side third rail. Widely used in London and the South East
<b>AC</b>	25,000 Volts alternating current electricity power supply using overhead line equipment. Widely used on the rest of the network
<b>CP4</b>	Control Period 4 (2009-2014)
<b>CP5</b>	Control Period 5 (2014-2019)
<b>CP6</b>	Control Period 6 (2019-24)
<b>DBS</b>	DB Schenker
<b>DC</b>	750 Volts direct current electricity power supply by top contact, side third rail. Widely used in London and the South East
<b>Down line</b>	Usually the line away from London, on the East and West Coastways this is also away from Brighton
<b>ELR</b>	Engineers Line Reference, three letter code designating the line of route
<b>ERTMS</b>	European Rail Traffic Management System
<b>Fast line</b>	Predominantly used by trains with limited stops on the line
<b>FGW</b>	First Great Western
<b>FL</b>	FreightLiner
<b>FOC</b>	Freight Operating Company
<b>GBRF</b>	GB Rail Freight
<b>GWML</b>	Great Western Mainline
<b>HV</b>	High Voltage
<b>MPH</b>	Miles Per Hour
<b>NRDF</b>	Network Rail Discretionary Fund
<b>OLE</b>	Overhead Line Equipment
<b>ORR</b>	Office of Rail Regulation (the regulator for the rail industry in Great Britain)
<b>RA</b>	Route Availability
<b>ROC</b>	Rail Operations Centre
<b>RUS</b>	Route Utilisation Strategy
<b>Slow line</b>	Predominantly used by trains serving stations on the line
<b>SRS</b>	Strategic Route Section

Term	Meaning
<b>SWML</b>	South West Main Line
<b>SSWT</b>	Stagecoach South West Trains
<b>TfL</b>	Transport for London
<b>TOC</b>	Train Operating Company
<b>TPH</b>	Trains Per Hour
<b>Up line</b>	Usually the line towards London, on the East and West Coastways this is also in the direction of Brighton
<b>WCML</b>	West Coast Main Line
<b>WIT</b>	Waterloo International Terminal
<b>WTT</b>	Working Timetable, detailed timetable used by rail industry staff

**Network Rail Limited**

1 Eversholt Street

London NW1 2DN

Tel: 020 7557 8000

[www.networkrail.co.uk](http://www.networkrail.co.uk)