

HS7 Mk2 Route Loadings

Introduction

Deriving the route loadings for a given service plan can be a difficult and tedious matter, and very prone to error. Furthermore, understanding what a given loading consists of can be problematic at a later time, requiring effectively as much effort to interpret as it originally took to produce (the only way reliably to work it out is effectively to regenerate it).

Following the referendum on EU membership and the decision to disengage from the EU, several changes have been made to the plans for HS rail, most importantly, abandoning GC-gauge, and building all new infrastructure to standard UK loading gauge. This has very little impact on the routes proposed, but significant impact on the service plans. In certain cases it is now proposed to include sections of classic route in the HS route, rather than building exclusively new throughout. (Note that this is different from the previous proposals to run classic compatible services on classic lines, **beyond** the HS route; this actually incorporates classic sections, upgraded as appropriate, in the HS route itself.)

Because of the significant changes introduced at Mk1A, the latest versions of all the Mk1 plans (v6.5 in the case of HS7) have been preserved, available in an archive section on the website.

For my own convenience as much as anything else, the present article elucidates the route loadings corresponding to service plans 4 and 5. Service Plan 4 is the full service plan for HS7 Mk1A, and SP5 for Mk2. HS7 is unusual in the following respect. Because of the superb alignments of the existing Birmingham & Gloucester and Bristol & Exeter routes, the incorporation of sections of classic route in HS7 at Mk1A (south of Birmingham, that is,) is very extensive. (Indeed, HS7 and the Birmingham – Exeter route are best considered together as an integrated set of routes.) Mk1A may thus be viewed as a cut-down version of the original proposals, much quicker and very much less expensive to implement, but nonetheless delivering a large proportion of the advantages of those proposals.

Given the amount that was cut out of HS7 Mk1 to form Mk1A, a Mk2 is therefore proposed, which is effectively the reinstatement of those parts of the original plans removed for Mk1A, on a piecemeal basis, as and when the build-up of traffic on Mk1A makes extra capacity desirable. If this is implemented in full, we end up with the original design, but having enjoyed years of service from the MK1A version in the interim.

The present article, though really of no interest to anyone but myself, is nonetheless published on the website, just in case anyone feels moved to challenge my figures, in which case they will be able to see how I derived them, without having to involve me personally, though I do otherwise welcome feedback.

The service plans are given in full, since otherwise the information would not be self-contained, and would require consulting the original Route and Service Plans article also.

Service Plan 4

HS7:

- 2tphH Newcastle – Consett – Durham (Relly Mill) – Darlington – York HS –:
Middlesborough – Thornaby – Eaglescliffe – Yarm – Northallerton – York HS –:
(joins / splits) – Leeds HS – Huddersfield – Sheffield HS – Derby – Birmingham
Interchange – Worcester Shrub Hill – Cheltenham Spa – Bristol Parkway – Bristol Temple Meads
– Taunton – Exeter St. David’s – Plymouth. [Interchange with HS4 2tphH Norwich – Diss –
Ipswich – Colchester – Chelmsford – Shenfield HS – Stratford HS South – Euston Cross – Old
Oak Common – LHR Interchange – Swindon – Bristol Parkway – Newport – Cardiff Central –
Cardiff (Rhoose) Airport – Bridgend – Port Talbot – Neath – Swansea]
- 2tphH Norwich – Ely (reverse) – Peterborough – Melton Mowbray – Nottingham – Derby –
Birmingham Interchange – Worcester Shrub Hill – Cheltenham Spa – Bristol Parkway – Newport
– Cardiff Central – Cardiff (Rhoose) Airport – Bridgend – Port Talbot – Neath – Swansea.
[Interchange with HS4 2tphH Norwich – Diss – Ipswich – Colchester – Chelmsford – Shenfield
HS – Stratford HS South – Euston Cross – Old Oak Common – LHR Interchange – Swindon –
Bristol Parkway – Bristol Temple Meads – Taunton – Exeter St. David’s – Plymouth]
- 2tphH York HS – Leeds HS – Huddersfield – Sheffield HS – Derby – Birmingham HS.
- 2tphH Halifax – Bradford Central - Shipley – Leeds City –:
Skipton – Keighley – Shipley – Leeds City –:
(joins / Splits) – South Yorkshire HL – Sheffield Midland – Chesterfird – Derby –
Birmingham HS.
- 2tphH Cleethorpes – Grimsby Town – Market Rasen – Lincoln – Newark Castle – Nottingham –
Derby – Birmingham HS.
- 2tphH Skegness – Wainfleet – Boston – Sleaford – Lincoln – Newark Castle – Nottingham –
Derby – Birmingham HS.
- 2tphH Birmingham HS – Birmingham Interchange – Worcester Shrub Hill – Cheltenham Spa –
Bristol Parkway – Bristol Temple Meads BT. [Interchange with HS4 2tphH Dover Priory –
Canterbury East – Faversham – Sheerness – Grain – Southend HS – Southend Airport – Shenfield
HS – Stratford HS South – Euston Cross – Old Oak Common – LHR Interchange – Reading
Parkway LL – Swindon – Bristol Parkway – Newport – Cardiff – Cardiff (Rhoose) Airport]
- 2tphH Birmingham HS – Birmingham Interchange – Worcester Shrub Hill – Cheltenham Spa –
Bristol Parkway – Newport – Cardiff Central – Cardiff (Rhoose) Airport. [Interchange with HS4
2tphH Dover Priory – Canterbury East – Faversham – Sheerness – Grain – Southend HS –
Southend Airport – Shenfield HS – Stratford HS South – Euston Cross – Old Oak Common –
LHR Interchange – Reading Parkway LL – Swindon – Bristol Parkway – Bristol Temple Meads
BT]
- 2tphH Exeter St. David’s – Dunsford – Moretonhampstead – Postbridge – Two Bridges –
Yelverton Road – Plymouth (HS Metro!)

Regional Metro:

- 2tphR York – Micklefield – Leeds City – Wakefield Westgate – Rotherham – South Yorkshire (Meadowhall) – Sheffield Midland – Chesterfield – Derby – Burton on Trent – Tamworth – Birmingham New St. – University – Bromsgrove – Droitwich Spa – Worcester Shrub Hill – Ashchurch – Cheltenham Spa – Gloucester (reverse) – Bristol Parkway – Bristol Temple Meads – Weston Super Mare – Highbridge – Bridgwater – Taunton – Tiverton Junction – Cullompton – Exeter St. David's – Dawlish – Teignmouth – Newton Abbot – Totnes – Ivybridge – Plymouth
- 2tphR Edinburgh – Drem – Dunbar – Berwick-upon-Tweed – Alnmouth – Morpeth – Newcastle – Chester le Street – Durham – Darlington – Northallerton – Thirsk – York

HS4:

- 2tphH Norwich – Diss – Ipswich – Colchester – Chelmsford – Shenfield HS – Stratford HS South – Euston Cross – Old Oak Common – LHR Interchange – Swindon – Bristol Parkway – Bristol Temple Meads – Taunton – Exeter St. David's – Plymouth.
- 2tphH Norwich – Beccles – Ipswich – Colchester – Chelmsford – Shenfield HS – Stratford HS South – Euston Cross – Old Oak Common – LHS Interchange – Swindon – Bristol Parkway – Newport – Cardiff Central – Cardiff (Rhoose Airport) – Bridgend – Port Talbot – Neath – Swansea
- 2tphH Dover Priory – Canterbury East – Faversham – Sheerness – Grain – Southend HS – Southend Airport – Shenfield HS – Stratford HS South – Euston Cross – Old Oak Common – LHR Interchange – Reading Parkway LL – Swindon – Bristol Parkway – Newport – Cardiff Central – Cardiff (Rhoose) Airport
- 2tphH Dover Priory – Canterbury East – Faversham – Sheerness – Grain – Southend HS – Southend Airport – Shenfield HS – Stratford HS South – Euston Cross – Old Oak Common – LHR Interchange – Reading Parkway LL – Swindon – Bristol Parkway – Bristol Temple Meads BT.
- 2tphH Paddington – Old Oak Common – LHR interchange LL – Reading Parkway LL – Taunton – Exeter St. David's – Plymouth – Liskeard – Bodmin Road – Lostwithiel – Par – St. Austell – Truro – Redruth – Camborne – Hayle – St. Erth – Penzance
- 2tphH Paddington – Old Oak Common – LHR interchange LL – Reading Parkway LL – Didcot Parkway – Swindon Kemble – Stroud – Stonehouse – Gloucester (splits / joins) –:
 - Lydney – Chepstow – Caldecot – Severn Tunnel Junction – Newport – Cardiff Central - Cardiff (Rhoose) Airport
 - (reverse) – Cheltenham Spa – Ashchursh – Worcester Shrub Hill

Representative Hourly Cross-Platform Interchange Pattern at Bristol Parkway:

- 00H Newcastle [/ Middlesborough] – Plymouth
H Norwich via Beccles – Euston Cross – Swansea
- 07H Birmingham HS – Cardiff Airport
H Dover Priory – Euston Cross – Bristol Temple Meads BT
- 15H Norwich – Swansea
H Norwich via Diss – Euston Cross – Plymouth

23H Birmingham HS – Bristol Temple Meads BT
H Dover Priory – Euston Cross – Cardiff Airport

– repeating at 30, 37, 45 and 53 minutes past.

Representative Hourly Cross-Platform Interchange at Worcester Shrub Hill:

00H Newcastle – Plymouth
H Worcester – Gloucester – Paddington

07H Birmingham HS – Cardiff Airport
R York – Plymouth

15H Norwich – Swansea
R Hereford – Paddington

23H Birmingham HS – Bristol Temple Meads BT
RS Birmingham New St. – Hereford

– repeating at 30, 37, 45 and 53 minutes past.

Representative Hourly (non-cross-platform) Interchange Pattern at Derby:

00H Newcastle – Plymouth
H Manchester – St. Pancras (HS Metro)

15H Norwich – Swansea
H York – St. Pancras (HS Metro)

– repeating at 30 and 45 minutes past.

Representative Hourly Cross-Platform Interchange at Nottingham:

00H HS8 Norwich – Preston
H Cleethorpes – Birmingham HS

07H Pancras Cross – York (HS Metro)
R Norwich / Stansted Airport – Morecambe
R St. Pancras – Melton Mowbray – York

15H Skegness – Birmingham HS
(no connection)

23H HS3/HS8 Pancras Cross – Preston (HS Metro)
H HS8/HS7 Norwich – Cardiff

– repeating at 30, 37, 45 and 53 minutes past.

Representative Hourly Cross-Platform Interchange Pattern at Darlington:

00H Newcastle [/ Middlesborough] – Plymouth
RS Saltburn – Middlesborough – Bishop Auckland

07H HS3 Newcastle [/ Middlesborough] – Pancras Cross [HS5 → Newhaven]

RS Saltburn – Middlesborough – Bishop Auckland

15H Newcastle [/ Middlesborough] – Liverpool

RS Saltburn – Middlesborough – Bishop Auckland

23H HS6 Edinburgh – St. Pancras (East)

RS Saltburn – Middlesborough – Bishop Auckland

– repeating at 30, 37, 45 and 53 minutes past

Representative Hourly Cross-Platform Interchange Pattern at Newcastle:

00H Newcastle – Plymouth

R Edinburgh – York

H Newcastle – Liverpool (via Stockton)

07H HS3 Newcastle – Pancras Cross [HS5 → Newhaven]

(no interchange)

15H Newcastle – Liverpool

H HS6 Edinburgh – St. Pancras (East)

– repeating at 30, 37 and 45 minutes past

The final HS7 loadings (including HS3, HS4, HS8 and HS9 loadings) are:

• Newcastle	– Paradise Junction	10tph
• Paradise Junction	– Derwent Hill Junction	6tph
• Derwent Hill Junction	– Romanby Junction	8tph
• Romanby Junction	– York HS	14tph
• York HS	– Garforth East Junction	14tph
• Garforth East Junction	– Garforth West Junction	10tph
• Garforth West Junction	– Gelderd Road North Junction	16tph
• Gelderd Road North Junction	– Gelderd Road South Junction	2tph
• Gelderd Road South Junction	– Ryhill Junction	2tph
• Garforth East Junction	– Swillington Common Junction	4tph
• Swillington Common Junction	– Ryhill Junction	8tph
• Ryhill Junction	– Denaby Main Junction	10tph
• Denaby Main Junction	– Wales Junction	8tph
• Wales Junction	– Huthwaite Junction	20tph
• Denaby Main Junction	– Old Denaby Junction	2ph
• Old Denaby Junction	– Stonebroom Junction	4tph
• Stonebroom Junction	– Huthwaite Junction	4tph
• Huthwaite Junction	– Nuthall North Junction	24tph
• Nuthall North Junction	– Awsworth Junction	6tph
• Strelley Junction	– Awsworth Junction	6tph
• Awsworth Junction	– Water Orton North Junction	12tph

• Water Orton North Junction	– Water Orton West Junction	8tph
• Water Orton West Junction	– Birmingham HS	12tph
• Water Orton North Junction	– Water Orton South Junction	4tph
• Water Orton West Junction	– Water Orton South Junction	4tph
• Water Orton South Junction	– Cofton Hall Junction	8tph
• Cofton Hall Junction	– Worcester Shrub Hill	8tph
• Worcester Shrub Hill	– Standish Junction	10tph
• Standish Junction	– Westerleigh Junction	8tph
• Westerleigh Junction	– Bristol Parkway	16tph
• Bristol Parkway	– Bristol Temple Meads	8tph
• Bristol Temple Meads	– Cogload Junction	4tph
• Cogload Junction	– Exeter St. David's	6tph
• Exeter St. David's	– Plymouth	8tph

For the sections north of Nuthall North Junction, the above loadings contain contributions from HS3, HS8 and HS9 (see the relevant Route and Service Plans documents for full details of these).

Elucidation of the loadings:

1. Newcastle – Paradise Junction
 - 2tphH Newcastle – Plymouth
 - 2tphH HS3/HS5 Newcastle – Newhaven
 - 2tphH HS8/HS9 Newcastle – Liverpool
 - 2tphH HS3/HS13 Newcastle – Glasgow
 - 2tphH HS3 Newcastle – Carlisle
 - = 10tph
2. Paradise Junction – Derwent Hill Junction
 - 2tphH Newcastle – Plymouth
 - 2tphH HS3/HS5 Newcastle – Newhaven
 - 2tphH HS8/HS9 Newcastle – Liverpool
 - = 6tph
3. Derwent Hill Junction – Romanby Junction
 - 2tphH Newcastle – Plymouth
 - 2tphH HS3/HS5 Glasgow – Eastbourne
 - 2tphH HS3/HS5 Newcastle – Newhaven
 - 2tphH HS8/HS9 Newcastle – Liverpool
 - = 8tph
4. Romanby Junction – Poppleton Junction
 - 2tphH Newcastle – Plymouth
 - 2tphH Middlesbrough – Plymouth (*)
 - 2tphH HS3/HS5 Glasgow – Eastbourne
 - 2tphH HS3/HS5 Newcastle – Newhaven

2tphH	HS3/HS5	Middlesborough – Newhaven (*)
2tphH	HS8/HS9	Newcastle – Liverpool
2tphH	HS8/HS9	Middlesborough – Liverpool (*)
2tphH	HS8/HS9	Newcastle – Liverpool via Hartlepool
2tphH	HS6	Edinburgh – St. Pancras East
	= 18tph	

(* The Middlesborough portions join with the Newcastle portions at York.)

5. Poppleton Junction – York HS

2tphH	Newcastle – Plymouth
2tphH	Middlesborough – Plymouth (*)
2tphH	HS3/HS5 Glasgow – Eastbourne
2tphH	HS3/HS5 Newcastle – Newhaven
2tphH	HS3/HS5 Middlesborough – Newhaven (*)
2tphH	HS8/HS9 Newcastle – Liverpool
2tphH	HS8/HS9 Middlesborough – Liverpool (*)
	= 14tph

(* The Middlesborough portions join with the Newcastle portions at York HS.)

6. York HS – Holgate Junction

2tphH	Newcastle/Middlesborough – Plymouth
2tphH	York – Birmingham HS
2tphH	HS3/HS5 Glasgow – Eastbourne
2tphH	HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH	HS3/HS5 York – Tunbridge Wells West
2tphH	HS3/HS5 York – Brighton
2tphH	HS8/HS9 Newcastle/Middlesborough – Liverpool
	= 14tph

7. Holgate Junction – Ulleskelf Junction

2tphH	Newcastle/Middlesborough – Plymouth
2tphH	York – Birmingham HS
2tphH	HS3/HS5 Glasgow – Eastbourne
2tphH	HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH	HS3/HS5 York – Tunbridge Wells West
2tphH	HS3/HS5 York – Brighton
2tphH	HS3 York – St. Pancras West via Derby
2tphH	HS8/HS9 Newcastle/Middlesborough – Liverpool
2tphH	HS8/HS9 Newcastle – Liverpool via Hartlepool
2tphH	HS6 Edinburgh – St. Pancras East
	= 20tph

8. Ulleskelf Junction – Garforth East Junction

2tphH	Newcastle/Middlesborough – Plymouth
2tphH	York – Birmingham HS
2tphH	HS3/HS5 Glasgow – Eastbourne
2tphH	HS3/HS5 Newcastle/Middlesborough – Newhaven

2tphH	HS3/HS5	York – Tunbridge Wells West
2tphH	HS3/HS5	York – Brighton
2tphH	HS8/HS9	Newcastle/Middlesborough – Liverpool
= 14tph		

9. Garforth East Junction – Swillington Common Junction

2tphH	HS3/HS5	Glasgow – Eastbourne
2tphH	HS3/HS5	Newcastle/Middlesborough – Newhaven
= 4tph		

10. Swillington Common Junction – Ryhill Junction

2tphH	Halifax/Skipton – Birmingham
2tphH	HS3/HS5 Glasgow – Eastbourne
2tphH	HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH	HS3/HS5 Halifax/Skipton – Tunbridge Wells West
= 8tph	

11. Ryhill Junction – Denaby Main Junction

2tphH	Halifax/Skipton – Birmingham
2tphH	HS3/HS5 Glasgow – Eastbourne
2tphH	HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH	HS3/HS5 Halifax/Skipton – Tunbridge Wells West
2tphH	HS3/HS5 York – Tunbridge Wells West
= 10tph	

12. Denaby Main Junction – Wales Junction

2tphH	HS3/HS5 Glasgow – Eastbourne
2tphH	HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH	HS3/HS5 Halifax/Skipton – Tunbridge Wells West
2tphH	HS3/HS5 York – Tunbridge Wells West
=8tph	

13. Garforth East Junction – Garforth West Junction

2tphH	Newcastle/Middlesborough – Plymouth
2tphH	York – Birmingham HS
2tphH	HS3/HS5 York – Tunbridge Wells West
2tphH	HS3/HS5 York – Brighton
2tphH	HS8/HS9 Newcastle/Middlesborough – Liverpool
= 10tph	

14. Garforth West Junction – Leeds HS – Gelderd Road North Junction

2tphH	Newcastle/Middlesborough – Plymouth
2tphH	York – Birmingham HS
2tphH	HS3/HS5 York – Tunbridge Wells West
2tphH	HS3/HS5 York – Brighton
2tphH	HS8/HS9 Newcastle/Middlesborough – Liverpool
2tphH	HS8/HS9 Newcastle – Liverpool via Hartlepool
2tphH	HS8/HS9 Hull – Preston

- 2tphH HS8/HS9 Scarborough - Preston
= 16tph
15. Gelderd Road North Junction – Gelderd Road South Junction
 2tphH HS3/HS5 York – Tunbridge Wells West
 = 2tph
16. Gelderd Road South Junction – Crofton Junction
 2tphH HS3/HS5 York – Tunbridge Wells West
 2tphH HS3 York – St. Pancras West via Derby
 = 4tph
17. Crofton Junction – Ryhill Junction
 2tphH HS3/HS5 York – Tunbridge Wells West
 = 2tph
18. Gelderd Road North Junction – Paddock Junction
 2tphH Newcastle/Middlesborough – Plymouth
 2tphH York – Birmingham HS
 2tphH HS3/HS5 York – Brighton
 2tphH HS8/HS9 Newcastle/Middlesborough – Liverpool
 2tphH HS8/HS9 Newcastle – Liverpool via Hartlepool
 2tphH HS8/HS9 Hull – Preston
 2tphH HS8/HS9 Scarborough - Preston
 = 14tph
19. Paddock Junction – Ladybower Junction
 2tphH Newcastle/Middlesborough – Plymouth
 2tphH York – Birmingham HS
 2tphH HS3/HS5 York – Brighton
 = 6tph
20. Ladybower Junction – Sheffield HS – Wales Junction
 2tphH Newcastle/Middlesborough – Plymouth
 2tphH York – Birmingham HS
 2tphH HS3/HS5 York – Brighton
 2tphH HS3/HS5 Preston – Brighton
 2tphH HS3/HS5 Liverpool – Tunbridge Wells West
 2tphH HS8/HS9 Preston – Norwich
 = 12tph
21. Halifax – Shipley East Junction
 2tph Halifax – Birmingham HS
 2tph HS3/HS5 Halifax – Tunbridge Wells West
 =4tph

22. Skipton – Shipley East Junction
 2tph Skipton – Birmingham HS
 2tph HS3/HS5 Skipton – Tunbridge Wells West
 =4tph
23. Shipley East Junction – Leeds City
 2tph Halifax – Birmingham HS
 2tph Skipton – Birmingham HS (*)
 2tph HS3/HS5 Halifax – Tunbridge Wells West
 2tph HS3/HS5 Skipton – Tunbridge Wells West (*)
 = 8tph
 (* The Skipton portions join with the Halifax portions at Leeds City.)
24. Leeds City – Manston Junction – Swillington Common Junction
 2tphH Halifax/Skipton – Birmingham HS
 2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West
 = 4tph
25. Wales Junction – Huthwaite Junction
 2tphH Newcastle/Middlesborough – Plymouth
 2tphH York – Birmingham HS
 2tphH HS3/HS5 Glasgow – Eastbourne
 2tphH HS3/HS5 Newcastle/Middlesborough – Newhaven
 2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West
 2tphH HS3/HS5 York – Tunbridge Wells West
 2tphH HS3/HS5 York – Brighton
 2tphH HS3/HS5 Preston – Brighton
 2tphH HS3/HS5 Liverpool – Tunbridge Wells West
 2tphH HS8/HS9 Preston – Norwich
 = 20tph
26. South Yorkshire LL – Old Denaby Junction
 2tphH HS3/HS5 South Yorkshire LL – Tunbridge Wells West
 = 2tph
27. Old Denaby Junction – Wincobank Junction
 2tphH Halifax/Skipton – Birmingham HS
 2tphH HS3/HS5 South Yorkshire LL – Tunbridge Wells West
 = 4tph
28. Barnsley – Wincobank Junction
 2tphH HS3/HS5 Barnsley – Tunbridge Wells West
 = 2tph
29. Wincobank Junction – Sheffield Midland
 2tphH Halifax/Skipton – Birmingham HS
 2tphH HS3/HS5 South Yorkshire LL – Tunbridge Wells West
 2tphH HS3/HS5 Barnsley – Tunbridge Wells West (*)

= 6tph

(* The Barnsley portions join with the South Yorkshire portions at Sheffield Midland.)

30. Sheffield Midland – Stonebroom Junction – Huthwaite Junction

2tphH Halifax/Skipton – Birmingham HS

2tphH HS3/HS6 Barnsley/South Yorkshire LL – Tunbridge Wells West

= 4tph

31. Huthwaite Junction – Nuthall North Junction

2tphH Newcastle/Middlesborough – Plymouth

2tphH York – Birmingham HS

2tphH Halifax/Skipton – Birmingham HS

2tphH HS3/HS5 Glasgow – Eastbourne

2tphH HS3/HS5 Newcastle/Middlesborough – Newhaven

2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West

2tphH HS3/HS5 York – Tunbridge Wells West

2tphH HS3/HS5 York – Brighton

2tphH HS3/HS5 Preston – Brighton

2tphH HS3/HS5 Liverpool – Tunbridge Wells West

2tphH HS3/HS5 Barnsley/South Yorkshire LL – Tunbridge Wells West

2tphH HS8/HS9 Preston – Norwich

= 24tph

32. Nuthall North Junction – Awsworth Junction

2tphH Newcastle/Middlesborough – Plymouth

2tphH York – Birmingham HS

2tphH Halifax/Skipton – Birmingham HS

= 6tph

33. Nuthall North Junction – Nuthall South Junction

2tphH HS3/HS5 Glasgow – Eastbourne

2tphH HS3/HS5 Newcastle/Middlesborough – Newhaven

2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West

2tphH HS3/HS5 York – Tunbridge Wells West

2tphH HS3/HS5 York – Brighton

2tphH HS3/HS5 Preston – Brighton

2tphH HS3/HS5 Liverpool – Tunbridge Wells West

2tphH HS8/HS9 Preston – Norwich

2tphH HS3/HS6 Barnsley/South Yorkshire LL – Tunbridge Wells West

= 18tph

34. Nuthall South Junction – Strelley Junction

2tphH HS3/HS5 York – Brighton

2tphH HS3/HS5 Preston – Brighton

2tphH HS8/HS9 Preston – Norwich

= 6tph

35. Strelley Junction – Awsworth Junction
2tphH Norwich – Swansea
2tphH Cleethorpes – Birmingham HS
2tphH Skegness – Birmingham HS
= 6tph
36. Awsworth Junction – Derby – Marston Junction – Water Orton North Junction (HS7)
2tphH Newcastle/Middlesborough – Plymouth
2tphH Norwich – Swansea
2tphH York – Birmingham HS
2tphH Halifax/Skipton – Birmingham HS
2tphH Cleethorpes – Birmingham HS
2tphH Skegness – Birmingham HS
= 12tph
37. Water Orton North Junction (HS7) – Water Orton South Junction (HS7 only)
2tphH Newcastle/Middlesborough – Plymouth
2tphH Norwich – Swansea
= 4tph
38. Water Orton North Junction (HS7) – Water Orton West Junction (HS7)
2tphH York – Birmingham HS
2tphH Halifax/Skipton – Birmingham HS
2tphH Cleethorpes – Birmingham HS
2tphH Skegness – Birmingham HS
= 8tph
39. Water Orton West Junction (HS7) – Birmingham HS (Curzon St.)
2tphH York – Birmingham HS
2tphH Halifax/Skipton – Birmingham HS
2tphH Cleethorpes – Birmingham HS
2tphH Skegness – Birmingham HS
2tphH Birmingham HS – Bristol Temple Meads BT
2tphH Birmingham HS – Cardiff Airport
= 12tph
40. Water Orton West Junction (HS7) – Water Orton South Junction (HS7 only)
2tphH Birmingham HS – Bristol Temple Meads BT
2tphH Birmingham HS – Cardiff Airport
= 4tph
41. Water Orton South Junction – Birmingham Interchange (HS7 only) – Crofton Hall Junction
2tphH Newcastle/Middlesborough – Plymouth
2tphH Norwich – Swansea
2tphH Birmingham HS – Bristol Temple Meads BT
2tphH Birmingham HS – Cardiff Airport
= 8tph

42. Crofton Hall Junction – Worcester Shrub Hill
 2tphH Newcastle/Middlesborough – Plymouth
 2tphH Norwich – Swansea
 2tphH Birmingham HS – Bristol Temple Meads BT
 2tphH Birmingham HS – Cardiff Airport
 = 8tph
43. Worcester Shrub Hill – Standish Junction
 2tphH Newcastle/Middlesborough – Plymouth
 2tphH Norwich – Swansea
 2tphH Birmingham HS – Bristol Temple Meads BT
 2tphH Birmingham HS – Cardiff Airport
 2tphH HS4 Worcester Shrub Hill – Paddington via Stroud
 = 10tph
 (There is actually a short stretch – the 1.3km between Barnwood and Gloucester Yard Junctions – where this reduces to 8tph, since the Worcester – Paddington service goes into Gloucester station, where it joins the portion from Cardiff Airport and reverses.)
44. Standish Junction – Westerleigh Junction
 2tphH Newcastle/Middlesborough – Plymouth
 2tphH Norwich – Swansea
 2tphH Birmingham HS – Bristol Temple Meads BT
 2tphH Birmingham HS – Cardiff Airport
 = 8tph
45. Westerleigh Junction – Bristol Parkway
 2tphH Newcastle/Middlesborough – Plymouth
 2tphH Norwich - Plymouth
 2tphH Norwich – Swansea via Birmingham
 2tphH Norwich – Swansea via London
 2tphH Birmingham HS – Bristol Temple Meads BT
 2tphH Birmingham HS – Cardiff Airport
 2tphH Dover – Bristol Temple Meads BT
 2tphH Dover – Cardiff Airport
 = 16tph
46. Bristol Parkway – Bristol Temple Meads
 2tphH Newcastle/Middlesborough – Plymouth
 2tphH Birmingham HS – Bristol Temple Meads BT
 2tphH Norwich – Plymouth
 2tphH Dover – Bristol Temple Meads BT
 = 8tph
47. Bristol Temple Meads – Cogload Junction
 2tphH Newcastle/Middlesborough – Plymouth
 2tphH Norwich – Plymouth
 = 4tph

48. Cogload Junction – Exeter St. David’s
2tphH Newcastle/Middlesborough – Plymouth
2tphH Norwich – Plymouth
2tphH Paddington – Penzance
= 6tph
49. Exeter St. David’s – Plymouth
2tphH Newcastle/Middlesborough – Plymouth
2tphH Exeter St. David’s – Plymouth (HS Metro)
2tphH Norwich – Plymouth
2tphH Paddington – Penzance
= 8tph
50. Bristol Parkway – Severn Tunnel Junction
2tphH Norwich – Swansea via Birmingham
2tphH Norwich – Swansea via London
2tphH Birmingham HS – Cardiff Airport
2tphH Dover – Cardiff Airport
= 8tph
51. Severn Tunnel Junction – Cardiff Airport
2tphH Norwich – Swansea via Birmingham
2tphH Norwich – Swansea via London
2tphH Birmingham HS – Cardiff Airport
2tphH Dover – Cardiff Airport
2tphH Paddington – Cardiff Airport via Stroud
= 10tph
52. Cardiff Airport – Swansea
2tphH Norwich – Swansea via Birmingham
2tphH Norwich – Swansea via London
= 4tph

Service Plan 5

HS7:

- 2tphH Newcastle – Consett – Durham Relly Mill – Darlington Bank Top –:
Middlesborough – Thornaby – Eaglescliffe – Yarm – Northallerton –:
(joins / splits) York HS – Leeds HS – Huddersfield – Sheffield HS – Derby – Birmingham
Interchange – Worcester Shrub Hill – Cheltenham Spa – Bristol Parkway HS – Bristol Temple
Meads HS – Taunton – Exeter St. David’s – Plymouth
- 2tphH Norwich – Ely (reverse) – Peterborough – Nottingham – Derby – Birmingham Interchange
– Worcester Shrub Hill – Cheltenham Spa – Bristol Parkway HS – Cardiff HS – Cardiff (Rhoose)
Airport – Port Talbot – Swansea
- 2tphH Liverpool Lime St. – Liverpool South Parkway – Runcorn – Crewe – Birmingham
Interchange – Worcester Shrub Hill – Cheltenham Spa – Bristol Parkway HS – Bristol Temple
Meads – Taunton – Exeter St. David’s – Plymouth`
- 2tphH Holyhead – Bangor – Llandudno Junction – Rhyl – Flint – Chester – Crewe – Birmingham
Interchange – Worcester Shrub Hill – Cheltenham Spa – Bristol Parkway HS – Cardiff HS –
Cardiff (Rhoose) Airport – Port Talbot – Swansea
- 2tphH Swansea – Port Talbot – Cardiff (Rhoose) Airpoet – Cardiff HS – Bristol Temple Meads –
Taunton – Exeter St. David’s – Plymouth
- 2tphH York HS – Leeds HS – Huddersfield – Sheffield HS – Derby – Birmingham HS.
- 2tphH Halifax – Bradford Central - Shipley – Leeds City –:
Skipton – Keighley – Shipley – Leeds City –:
(joins / Splits) – South Yorkshire HL – Sheffield Midland – Chesterfird – Derby –
Birmingham HS.
- 2tphH Cleethorpes – Grimsby Town – Market Rasen – Lincoln – Newark Castle – Nottingham –
Derby – Birmingham HS.
- 2tphH Skegness – Wainfleet – Boston – Sleaford – Lincoln – Newark Castle – Nottingham –
Derby – Birmingham HS.
- 2tphH Birmingham HS – Birmingham Interchange – Worcester Shrub Hill – Cheltenham Spa –
Bristol Parkway HS – Cardiff HS – Cardiff (Rhoose) Airport
- 2tphH Birmingham HS – Birmingham Interchange – Worcester Shrub Hill – Cheltenham Spa –
Bristol Parkway HS – Bristol Temple Meads BT
- 2tphH Exeter St. David’s – Dunsford – Moretonhampstead – Postbridge – Two Bridges (for
Princetown) – Yelverton Road – Plymouth (HS Metro)

Regional Metro Services:

- 2tphR York – Micklefield – Leeds City – Wakefield Westgate – South Yorkshire LL –
Rotherham – Sheffield Midland – Chesterfield – Derby – Burton on Trent – Tamworth –
Birmingham New St. – University – Bromsgrove – Droitwich Spa – Worcester Shrub Hill –
Ashchurch – Cheltenham Spa – Gloucester (reverse) – Bristol Parkway – Bristol Temple Meads –
Weston Super Mare – Highbridge – Bridgwater – Taunton – Tiverton Junction – Cullompton –
Exeter St. David’s – Dawlish – Teignmouth – Newton Abbot – Totnes – Ivybridge – Plymouth
- 2tphR Edinburgh – Drem – Dunbar – Berwick-upon-Tweed – Alnmouth – Morpeth – Newcastle
– Chester le Street – Durham – Darlington – Northallerton – Thirsk – York

- 2tphR Stalybridge – Ashton-under-Lyne – Manchester Victoria – Salford Central – Eccles – Warrington Bank Quay – Helsby – Chester – Wrexham General – Ruabon – Chirk – Gobowen – Shrewsbury – Church Stretton – Craven Arms – Ludlow – Leominster – Hereford – Abergavenny – Pontypool & New Inn – Cwmbran – Newport – Cardiff – Cardiff (Rhoose) Airport – Bridgend – Port Talbot – Neath – Swansea
[This service alternates between Stalybridge and Newport with the service from Stalybridge to Plymouth, which reverses in Newport.]
- 2tphR Plymouth – Ivybridge – Brent – Totnes – Newton Abbot – Teignmouth – Dawlish – Exeter St. David's – Cullompton – Tiverton Parkway – Taunton – Bridgwater – Highbridge – Weston Super Mare – Bristol Temple Meads – Filton Abbey Wood – Newport – Cardiff – Cardiff (Rhoose) Airport – Bridgend – Port Talbot – Neath – Swansea
[This service alternates between Plymouth and Newport with the service from Plymouth to Stalybridge, which reverses at Newport.]
- 2tphR Stalybridge – Ashton-under-Lyne – Manchester Victoria – Salford Central – Eccles – Warrington Bank Quay – Helsby – Chester – Wrexham General – Ruabon – Chirk – Gobowen – Shrewsbury – Church Stretton – Craven Arms – Ludlow – Leominster – Hereford – Abergavenny – Pontypool & New Inn – Cwmbran – Newport (reverse) – Filton Abbey Wood – Bristol Temple Meads – Weston Super Mare – Highbridge – Bridgwater – Taunton – Tiverton Parkway – Cullompton – Exeter St. David's – Dawlish – Teignmouth – Newton Abbot – Totnes – Ivybridge – Plymouth
- 2tphR Cleethorpes – Grimsby Town – Barnetby – Market Rasen – Lincoln – Newark Castle – Nottingham – Derby (reverse) – Burton upon Trent – Tamworth – Birmingham New St. – University – Bromsgrove – Droitwich Spa – Worcester Shrub Hill – Ashchurch – Cheltenham Spa – Gloucester – Lydney – Chepstow – Newport – Cardiff Central – Cardiff (Rhoose) Airport
- 2tphR Portsmouth Harbour – Portsmouth & Southsea – Fratton – Cosham – Fareham – Southampton – Romsey – Salisbury – Warminster – Westbury – Trowbridge – Bradford-on-Avon – Bath Spa – Bristol Temple Meads (reverse) – Filton Abbey Wood – Newport – Cardiff Central – Cardiff (Rhoose) Airport

Several of the above services are included merely because they impose a loading on the section Cardiff General – Cardiff Airport.

Cross Country (XC) Services:

- 2tphR York – Micklefield – Leeds City – Wakefield Westgate – South Yorkshire LL – Sheffield Midland – Chesterfield – Derby – Burton upon Trent – Tamworth HL – Birmingham New St. (reverse) – Birmingham International – Coventry – Leamington Spa – Banbury – Oxford – Reading General (reverse) – Reading Parkway HL – Basingstoke HS – Winchester – Southampton Airport Parkway – Southampton Central – Brockenhurst – Bournemouth Central – Bournemouth West
- 2tphR Manchester Piccadilly – Stockport – Macclesfield – Stoke upon Trent – Stafford – Wolverhampton – Birmingham New St. – Birmingham International – Coventry – Leamington Spa – Banbury – Oxford – Reading General (reverse) – Reading Parkway HL – Basingstoke HS – Winchester – Southampton Airport Parkway – Southampton Central – Brockenhurst – Bournemouth Central – Bournemouth West

HS4:

- 2tphH Norwich – Beccles – Ipswich HS – Colchester – Chelmsford – Shenfield HS – Stratford HS South – Euston Cross – Old Oak Common – LHR Interchange – Bristol Parkway HS – Cardiff HS – Cardiff (Rhoose) Airport – Port Talbot – Swansea
- 2tphH Dover Priory – Canterbury East – Faversham – Sheerness – Grain – Southend HS – Southend Airport – Shenfield HS – Stratford HS South – Euston Cross – Old Oak Common – LHR Interchange – Reading Parkway LL – Swindon – Bristol Parkway HS – Bristol Temple Meads BT
- 2tphH Norwich – Diss – Ipswich HS – Colchester – Chelmsford – Shenfield HS – Stratford HS South – Euston Cross – Old Oak Common – LHR Interchange – Bristol Parkway HS – Bristol Temple Meads HS – Taunton – Exeter St. David's – Plymouth (splits / joins) – :
– Liskeard – Bodmin Rd. – Lostwithiel – Par – St. Austell – Truro – Redruth – Camborne – Hayle – St. Erth – Penzance
– Bere Alston – Tavistock – Launceston – Delebole – Port Isaac Rd. – Wadebridge - Padstow
- 2tphH Dover Priory – Canterbury East – Faversham – Sheerness – Grain – Southend HS – Southend Airport – Shenfield HS – Stratford HS South – Euston Cross – Old Oak Common – LHR Interchange – Reading Parkway LL – Swindon – Bristol Parkway – Cardiff HS – Cardiff (Rhoose) Airport
- 2tphH Paddington – Old Oak Common = LHR Interchange – Reading Parkway LL – Swindon – Bristol Parkway (classic) – Newport – Cardiff – Cardiff (Rhoose) Airport – Bridgend – Port Talbot – Neath – Swansea (reverse) – Llanelli – Carmarthen
- 2tphH Paddington – Old Oak Common = LHR Interchange – Reading Parkway LL – Didcot Parkway – Swindon – Kemble – Stroud – Stonehouse – Gloucester (splis / joins) – :
– Lydney – Chepstow – Caldicot – Severn Tunnel Junction – Newport – Cardiff Central – Cardiff (Rhoose) Airport
– (reverse) Cheltenham Spa – Ashchursh – Worcester Shrub Hill

Representative Hourly Cross-Platform Interchange at Bristol Parkway HS:

- 00H Newcastle / Middlesborough – (joins / splits York HS) – Plymouth
H [Norwich via Beccles –] Euston Cross – Swansea
- 05H Birmingham HS – Cardiff Airport
H [Dover Priory –] Euston Cross – Bristol Temple Meads BT
- 10H Liverpool – Plymouth
(no connection, but the service Plymouth – Swansea occupies the slot into South Wales)
H Paddington – Swansea – Carmarthen) These services use the Bristol Parkway classic platforms,
R York – Plymouth) and have cross-platform interchange with each other.
- 15H Norwich – Birmingham – Swansea
H [Norwich via Diss –] Euston Cross – Plymouth – Penzance / Padstow
- 20H Birmingham HS – Bristol Temple Meads BT
H [Dover Priory –] Euston Cross – Cardiff Airport

25H Holyhead – Swansea
 (no connection, but the Swansea – Plymouth service occupies the slot into the West Country)
 – repeating at 30, 35, 40, 45, 50 and 55 minutes past.

Representative Hourly Cross-Platform Interchange at Worcester Shrub Hill:

00H Newcastle / Middlesborough – (joins / splits York HS) – Plymouth
 H Worcester – Gloucester – Paddington (travels on classic tracks)

05H Birmingham HS – Cardiff Airport
 R York – Plymouth

10H Liverpool – Plymouth
 RS Birmingham New St. – Worcester

15H Norwich – Swansea
 R Hereford – Paddington

20H Birmingham HS – Bristol Temple Meads BT
 RS Worcester – Oxford

25H Holyhead – Swansea
 RS Birmingham New St. – Hereford

– repeating at 30, 35, 40, 45, 50 and 55 minutes past.

Representative Hourly Cross-Platform Interchange Pattern at Swindon:

00H Paddington – Gloucester – Cardiff / Worcester (platform 5)
 (no connection)

05H [Dover Priory –] Euston Cross – Bristol Temple Meads BT (platform 1)
 R Heathrow Shuttle (platform 2; reverse then return from platform 3)

10H Paddington – Swansea – Carmarthen (platform 2)
 (no connection)

15H Paddington – Bristol Temple Meads via Bath (platform 2)
 (no connection)

20H [Dover Priory –] Euston Cross – Cardiff Airport (platform 1)
 R Paddington – Weymouth (platform 2)

– repeating at 30, 35, 40, 45, and 50 minutes past.

Representative Hourly Interchange at Reading Parkway (cross-platform at both HL and LL):

00H LL *[Norwich via Beccles –] Euston Cross – Swansea NON-STOP*
 H LL [Dover Priory –] Euston Cross – Bristol Temple Meads BT
 H LL Paddington – Bristol Temple Meads via Bath

H	HL	[Lowestoft / Yarmouth – (joins / splits Beccles) – >] Euston Cross – Weymouth
RS	HL	Henley – Basingstoke all station
05H	LL	Paddington – Swansea – Carmarthen
H	HL	[Clacton / Walton – (joins / splits Thorpe le Soken) – >] Euston Cross – Plymouth
R	HL	XC Manchester – Bournemouth West
15H	LL	<i>[Norwich via Diss –] Euston Cross – Penzance / Padstow NON-STOP</i>
H	LL	[Dover Priory –] Euston Cross – Cardiff Airport
H	LL	Paddington – Gloucester – Cardiff Airport / Worcester Shrub Hill
H	HL	[Harwich –] Euston Cross – Bournemouth West
RS	HH	Reading – Basingstoke all stations
20H	HL	[Braintree – >] Euston Cross – Salisbury
R	HL	XC York – Bournemouth West

– repeating at 30, 37, 45, and 53 minutes past.

Representative Hourly Cross-Platform Interchange Pattern at Westbury:

00H	Paddington – Plymouth
R	Paddington – Weymouth

– repeating at 30 minutes past.

Representative Hourly Cross-Platform Interchange Pattern at Cardiff Airport:

00H	Norwich – Swansea via London
R	Cleethorpes – Cardiff Airport
05H	Birmingham – Cardiff Airport
R	Portsmouth Harbour – Cardiff Airport
10H	Plymouth – Swansea
R	Stalybridge – Manchester – Swansea
15H	Norwich – Birmingham – Swansea
H	Paddington – Cardiff Airport via Gloucester
20H	Dover – Cardiff Airport
H	Paddington – Swansea – Carmarthen
25H	Holyhead – Swansea
R	Plymouth – Swansea

– repeating at 30, 35, 40, 45, 50 and 55 minutes past.

Representative Hourly Cross-Platform Interchange Pattern at Cardiff Central (as opposed to Cardiff HS):

00H	Paddington – Swansea – Carmarthen
H	Paddington – Cardiff Airport via Gloucester

10R Stalybridge – Manchester – Swansea
R Portsmouth Harbour – Cardiff Airport

25R Plymouth – Swansea
R Cleethorpes – Cardiff Airport

– repeating at 30, 40 and 55 minutes past.

Representative **Complete** Hourly Cross-Platform Interchange Pattern at Newport:

00H Paddington – Swansea – Carmarthen

08R Portsmouth Harbour – Cardiff Airport
R Cardiff Airport – Cleethorpes

10R Stalybridge – Manchester – Swansea
R Swansea – Plymouth
R Plymouth – Manchester – Stalybridge (reverse; not cross-platform. Arrives 05. departs 15.)

12H Cardiff Airport – Paddington via Gloucester

15H Carmarthen – Swansea – Paddington

23R Cleethorpes – Cardiff Airport
R Cardiff Airport – Portsmouth Harbour

25R Plymouth – Swansea
R Swansea – Manchester – Stalybridge
R Stalybridge – Manchester – Plymouth (reverse; not cross-platform. Arrives 20, departs 30.)

27R Cardiff Airport – Portsmouth Harbour
H Paddington – Cardiff Airport via Gloucester

– repeating at 30, 37, 45 and 53 minutes past.

The Stalybridge – Plymouth service reverses in platform 1, where it spends c.10 minutes. The other pair of trains at 10 and 25 are each travelling in opposite directions, and have a cross-platform interchange, using platforms 2 and 3. There is thus plenty of time for non-cross-platform interchange with the Stalybridge – Plymouth service. The point of all this is that these timings at Newport enable a service of 4tph between each pair Stalybridge – Plymouth, Plymouth – Swansea and Swansea – Stalybridge, in both directions, 2tph being through services and the other 2tph involving one change, at Newport, giving the same arrival times as the through services. Hence the necessity to give the complete service, in both directions, at Newport.

The final HS7 loadings (including HS3, HS4, HS8 and HS9 loadings) are:

• Newcastle	– Paradise Junction	12tph
• Paradise Junction	– Derwent Hill Junction	8tph
• Derwent Hill Junction	– Romanby Junction	10tph
• Romanby Junction	– York HS	18tph
• York HS	– Garforth East Junction	16tph
• Garforth East Junction	– Garforth West Junction	10tph
• Garforth West Junction	– Gelderd Road North Junction	16tph
• Gelderd Road North Junction	– Gelderd Road South Junction	2tph
• Gelderd Road South Junction	– Ryhill Junction	2tph
• Garforth East Junction	– Swillington Common Junction	6tph
• Swillington Common Junction	– Ryhill Junction	10tph
• Ryhill Junction	– Denaby Main Junction	12tph
• Denaby Main Junction	– Wales Junction	10tph
• Wales Junction	– Huthwaite Junction	24tph
• Denaby Main Junction	– Old Denaby Junction	2ph
• Old Denaby Junction	– Wincobank Junction	4tph
• Wincobank Junction	– Sheffield Midland	6tph
• Sheffield Midland	– Huthwaite Junction	4tph
• Huthwaite Junction	– Nuthall North Junction	28tph
• Nuthall North Junction	– Awsworth Junction	6tph
• Strelley Junction	– Awsworth Junction	6tph
• Awsworth Junction	– Water Orton North Junction	12tph
• Water Orton North Junction	– Water Orton West Junction	8tph
• Water Orton West Junction	– Birmingham HS	12tph
• Water Orton West Junction	– Water Orton South Junction	4tph
• Water Orton North Junction	– Water Orton South Junction	8tph
• Water Orton South Junction	– Bristol Parkway HS	12tph
• Bristol Parkway HS	– Stadium Junction	10tph
• Brentry Junction	– Stadium Junction	2tph
• Stadium Junction	– Bristol Temple Meads	12tph
• Bristol Temple Meads	– Exeter St. David's	8tph
• Exeter St. David's	– Plymouth	10tph
• Bristol Parkway	– Brentry Junction	10tph
• Brentry Junction	– Cardiff HS	12tph
• Cardiff (HS and Central)	– Cardiff Airport	24tph
• Cardiff Airport	– Ewenny South Junction	14tph
• Ewenny South Junction	– Swansea	8tph

For the sections north of Nuthall North Junction, the above loadings contain contributions from HS3, HS8 and HS9 (see the relevant Route and Service Plans documents for full details of these).

Elucidation of the loadings:

1. Newcastle – Paradise Junction
 - 2tphH Newcastle – Plymouth
 - 2tphH HS3/HS5 Newcastle – Newhaven
 - 2tphH HS3/HS5 Newcastle – Bournemouth West
 - 2tphH HS8/HS9 Newcastle – Liverpool
 - 2tphH HS3/HS13 Newcastle – Glasgow
 - 2tphH HS3 Newcastle – Carlisle
 - = 12tph
2. Paradise Junction – Derwent Hill Junction
 - 2tphH Newcastle – Plymouth
 - 2tphH HS3/HS5 Newcastle – Bournemouth West
 - 2tphH HS3/HS5 Newcastle – Newhaven
 - 2tphH HS8/HS9 Newcastle – Liverpool
 - = 8tph
3. Derwent Hill Junction – Romanby Junction
 - 2tphH Newcastle – Plymouth
 - 2tphH HS3/HS5 Glasgow – Eastbourne
 - 2tphH HS3/HS5 Newcastle – Newhaven
 - 2tphH HS3/HS5 Newcastle – Bournemouth West
 - 2tphH HS8/HS9 Newcastle – Liverpool
 - = 10tph
4. Romanby Junction – Poppleton Junction
 - 2tphH Newcastle – Plymouth
 - 2tphH Middlesborough – Plymouth (*)
 - 2tphH HS3/HS5 Glasgow – Eastbourne
 - 2tphH HS3/HS5 Newcastle – Newhaven
 - 2tphH HS3/HS5 Middlesborough – Newhaven (*)
 - 2tphH HS3/HS5 Newcastle – Bournemouth West
 - 2tphH HS3/HS5 Middlesborough – Bournemouth West
 - 2tphH HS8/HS9 Newcastle – Liverpool
 - 2tphH HS8/HS9 Middlesborough – Liverpool (*)
 - 2tphH HS8/HS9 Newcastle – Liverpool via Hartlepool
 - 2tphH HS6 Edinburgh – St. Pancras East
 - = 22tph
 - (* The Middlesborough portions join with the Newcastle portions at York.)
5. Poppleton Junction – York HS
 - 2tphH Newcastle – Plymouth
 - 2tphH Middlesborough – Plymouth (*)
 - 2tphH HS3/HS5 Glasgow – Eastbourne
 - 2tphH HS3/HS5 Newcastle – Newhaven
 - 2tphH HS3/HS5 Middlesborough – Newhaven (*)

2tphH	HS3/HS5	Newcastle – Bournemouth West
2tphH	HS3/HS5	Middlesborough – Bournemouth West
2tphH	HS8/HS9	Newcastle – Liverpool
2tphH	HS8/HS9	Middlesborough – Liverpool (*)

= 18tph

(* The Middlesborough portions join with the Newcastle portions at York HS.)

6. York HS – Holgate Junction

2tphH	Newcastle/Middlesborough – Plymouth
2tphH	York – Birmingham HS
2tphH	HS3/HS5 Glasgow – Eastbourne
2tphH	HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH	HS3/HS5 Newcastle/Middlesborough – Bournemouth West
2tphH	HS3/HS5 York – Tunbridge Wells West
2tphH	HS3/HS5 York – Brighton
2tphH	HS8/HS9 Newcastle/Middlesborough – Liverpool

= 16tph

7. Holgate Junction – Ulleskelf Junction

2tphH	Newcastle/Middlesborough – Plymouth
2tphH	York – Birmingham HS
2tphH	HS3/HS5 Glasgow – Eastbourne
2tphH	HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH	HS3/HS5 Newcastle/Middlesborough – Bournemouth West
2tphH	HS3/HS5 York – Tunbridge Wells West
2tphH	HS3/HS5 York – Brighton
2tphH	HS3 York – St. Pancras West via Derby
2tphH	HS8/HS9 Newcastle/Middlesborough – Liverpool
2tphH	HS8/HS9 Newcastle – Liverpool via Hartlepool
2tphH	HS6 Edinburgh – St. Pancras East

= 22tph

8. Ulleskelf Junction – Garforth East Junction

2tphH	Newcastle/Middlesborough – Plymouth
2tphH	York – Birmingham HS
2tphH	HS3/HS5 Glasgow – Eastbourne
2tphH	HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH	HS3/HS5 Newcastle/Middlesborough – Bournemouth West
2tphH	HS3/HS5 York – Tunbridge Wells West
2tphH	HS3/HS5 York – Brighton
2tphH	HS8/HS9 Newcastle/Middlesborough – Liverpool

= 16tph

9. Garforth East Junction – Swillington Common Junction
 - 2tphH HS3/HS5 Glasgow – Eastbourne
 - 2tphH HS3/HS5 Newcastle/Middlesborough – Newhaven
 - 2tphH HS3/HS5 Newcastle/Middlesborough – Bournemouth West
 - = 6tph
10. Swillington Common Junction – Ryhill Junction
 - 2tphH Halifax/Skipton – Birmingham
 - 2tphH HS3/HS5 Glasgow – Eastbourne
 - 2tphH HS3/HS5 Newcastle/Middlesborough – Newhaven
 - 2tphH HS3/HS5 Newcastle/Middlesborough – Bournemouth West
 - 2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West
 - = 10tph
11. Ryhill Junction – Denaby Main Junction
 - 2tphH Halifax/Skipton – Birmingham
 - 2tphH HS3/HS5 Glasgow – Eastbourne
 - 2tphH HS3/HS5 Newcastle/Middlesborough – Newhaven
 - 2tphH HS3/HS5 Newcastle/Middlesborough – Bournemouth West
 - 2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West
 - 2tphH HS3/HS5 York – Tunbridge Wells West
 - = 12tph
12. Denaby Main Junction – Wales Junction
 - 2tphH HS3/HS5 Glasgow – Eastbourne
 - 2tphH HS3/HS5 Newcastle/Middlesborough – Newhaven
 - 2tphH HS3/HS5 Newcastle/Middlesborough – Bournemouth West
 - 2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West
 - 2tphH HS3/HS5 York – Tunbridge Wells West
 - =10tph
13. Garforth East Junction – Garforth West Junction
 - 2tphH Newcastle/Middlesborough – Plymouth
 - 2tphH York – Birmingham HS
 - 2tphH HS3/HS5 York – Tunbridge Wells West
 - 2tphH HS3/HS5 York – Brighton
 - 2tphH HS8/HS9 Newcastle/Middlesborough – Liverpool
 - = 10tph
14. Garforth West Junction – Leeds HS – Gelderd Road North Junction
 - 2tphH Newcastle/Middlesborough – Plymouth
 - 2tphH York – Birmingham HS
 - 2tphH HS3/HS5 York – Tunbridge Wells West
 - 2tphH HS3/HS5 York – Brighton
 - 2tphH HS8/HS9 Newcastle/Middlesborough – Liverpool
 - 2tphH HS8/HS9 Newcastle – Liverpool via Hartlepool
 - 2tphH HS8/HS9 Hull – Preston

- 2tphH HS8/HS9 Scarborough - Preston
= 16tph
15. Gelderd Road North Junction – Gelderd Road South Junction
2tphH HS3/HS5 York – Tunbridge Wells West
= 2tph
16. Gelderd Road South Junction – Crofton Junction
2tphH HS3/HS5 York – Tunbridge Wells West
2tphH HS3 York – St. Pancras West via Derby
= 4tph
17. Crofton Junction – Ryhill Junction
2tphH HS3/HS5 York – Tunbridge Wells West
= 2tph
18. Gelderd Road North Junction – Huddersfield – Paddock Junction
2tphH Newcastle/Middlesborough – Plymouth
2tphH York – Birmingham HS
2tphH HS3/HS5 York – Brighton
2tphH HS8/HS9 Newcastle/Middlesborough – Liverpool
2tphH HS8/HS9 Newcastle – Liverpool via Hartlepool
2tphH HS8/HS9 Hull – Preston
2tphH HS8/HS9 Scarborough - Preston
= 14tph
19. Paddock Junction – Ladybower Junction
2tphH Newcastle/Middlesborough – Plymouth
2tphH York – Birmingham HS
2tphH HS3/HS5 York – Brighton
= 6tph
20. Ladybower Junction – Sheffield HS – Wales Junction
2tphH Newcastle/Middlesborough – Plymouth
2tphH York – Birmingham HS
2tphH HS3/HS5 York – Brighton
2tphH HS3/HS5 Preston – Brighton
2tphH HS3/HS5 Liverpool – Tunbridge Wells West
2tphH HS3/HS5 Preston – Tunbridge Wells West
2tphH HS8/HS6 Preston – Norwich
2tphH HS8/HS9 Liverpool – Hull`
2tphH HS8/HS9 Preston – Cleethorpes
2tphH HS8/HS9 Liverpool - Skegness
= 20tph

21. Halifax – Shipley East Junction
2tphH Halifax – Birmingham HS
2tphH HS3/HS5 Halifax – Tunbridge Wells West
=4tph
22. Skipton – Shipley East Junction
2tphH Skipton – Birmingham HS
2tphH HS3/HS5 Skipton – Tunbridge Wells West
=4tph
23. Shipley East Junction – Leeds City
2tphH Halifax – Birmingham HS
2tphH Skipton – Birmingham HS (*)
2tphH HS3/HS5 Halifax – Tunbridge Wells West
2tphH HS3/HS5 Skipton – Tunbridge Wells West (*)
= 8tph
(* The Skipton portions join with the Halifax portions at Leeds City.)
24. Leeds City – Manston Junction – Swillington Common Junction
2tphH Halifax/Skipton – Birmingham HS
2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West
= 4tph
25. Wales Junction – Huthwaite Junction
2tphH Newcastle/Middlesborough – Plymouth
2tphH York – Birmingham HS
2tphH HS3/HS5 Glasgow – Eastbourne
2tphH HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH HS3/HS5 Newcastle/Middlesborough – Bournemouth West
2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West
2tphH HS3/HS5 York – Tunbridge Wells West
2tphH HS3/HS5 York – Brighton
2tphH HS3/HS5 Preston – Brighton
2tphH HS3/HS5 Liverpool – Tunbridge Wells West
2tphH HS3/HS5 Preston – Tunbridge Wells West
2tphH HS8/HS9 Preston – Norwich
= 24tph
26. South Yorkshire LL – Old Denaby Junction
2tphH HS3/HS5 South Yorkshire LL – Tunbridge Wells West
= 2tph
27. Old Denaby Junction – Wincobank Junction
2tphH Halifax/Skipton – Birmingham HS
2tphH HS3/HS5 South Yorkshire LL – Tunbridge Wells West
= 4tph

28. Barnsley – Wincobank Junction
2tphH HS3/HS5 Barnsley – Tunbridge Wells West
= 2tph
29. Wincobank Junction – Sheffield Midland
2tphH Halifax/Skipton – Birmingham HS
2tphH HS3/HS5 South Yorkshire LL – Tunbridge Wells West
2tphH HS3/HS5 Barnsley – Tunbridge Wells West (*)
= 6tph
(* The Barnsley portions join with the South Yorkshire portions at Sheffield Midland.)
30. Sheffield Midland – Stonebroom Junction – Huthwaite Junction
2tphH Halifax/Skipton – Birmingham HS
2tphH HS3/HS6 Barnsley/South Yorkshire LL – Tunbridge Wells West
= 4tph
31. Huthwaite Junction – Nuthall North Junction
2tphH Newcastle/Middlesborough – Plymouth
2tphH York – Birmingham HS
2tphH Halifax/Skipton – Birmingham HS
2tphH HS3/HS5 Glasgow – Eastbourne
2tphH HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH HS3/HS5 Newcastle/Middlesborough – Bournemouth West
2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West
2tphH HS3/HS5 York – Tunbridge Wells West
2tphH HS3/HS5 York – Brighton
2tphH HS3/HS5 Preston – Brighton
2tphH HS3/HS5 Liverpool – Tunbridge Wells West
2tphH HS3/HS5 Preston – Tunbridge Wells West
2tphH HS3/HS5 Barnsley/South Yorkshire LL – Tunbridge Wells West
2tphH HS8/HS9 Preston – Norwich
= 28tph
32. Nuthall North Junction – Awsworth Junction
2tphH Newcastle/Middlesborough – Plymouth
2tphH York – Birmingham HS
2tphH Halifax/Skipton – Birmingham HS
= 6tph
33. Nuthall North Junction – Nuthall South Junction
2tphH HS3/HS5 Glasgow – Eastbourne
2tphH HS3/HS5 Newcastle/Middlesborough – Newhaven
2tphH HS3/HS5 Newcastle/Middlesborough – Bournemouth West
2tphH HS3/HS5 Halifax/Skipton – Tunbridge Wells West
2tphH HS3/HS5 York – Tunbridge Wells West
2tphH HS3/HS5 York – Brighton
2tphH HS3/HS5 Preston – Brighton
2tphH HS3/HS5 Liverpool – Tunbridge Wells West

- | | | | |
|--|-------|---------|--|
| | 2tphH | HS3/HS5 | Preston – Tunbridge Wells West |
| | 2tphH | HS3/HS5 | Barnsley/South Yorkshire LL – Tunbridge Wells West |
| | 2tphH | HS8/HS9 | Preston – Norwich |
| | | | = 22tph |
34. Nuthall South Junction – Strelley Junction
- | | | | |
|--|-------|---------|--------------------|
| | 2tphH | HS3/HS5 | York – Brighton |
| | 2tphH | HS3/HS5 | Preston – Brighton |
| | 2tphH | HS8/HS9 | Preston – Norwich |
| | | | = 6tph |
35. Strelley Junction – Awsworth Junction
- | | | |
|--|-------|-----------------------------|
| | 2tphH | Norwich – Swansea |
| | 2tphH | Cleethorpes – Birmingham HS |
| | 2tphH | Skegness – Birmingham HS |
| | | = 6tph |
36. Awsworth Junction – Derby – Marston Junction – Water Orton North Junction (HS7)
- | | | |
|--|-------|-------------------------------------|
| | 2tphH | Newcastle/Middlesborough – Plymouth |
| | 2tphH | Norwich – Swansea |
| | 2tphH | York – Birmingham HS |
| | 2tphH | Halifax/Skipton – Birmingham HS |
| | 2tphH | Cleethorpes – Birmingham HS |
| | 2tphH | Skegness – Birmingham HS |
| | | = 12tph |
37. Liverpool Lime St. – Crewe (WCML)
- | | | |
|--|-------|----------------------|
| | 2tphH | Liverpool – Plymouth |
| | | = 2tph |
38. Holyhead – Crewe
- | | | |
|--|-------|--------------------|
| | 2tphH | Holyhead – Swansea |
| | | = 2tph |
39. Crewe – Water Orton North Junction (HS2)
- | | | |
|--|-------|----------------------|
| | 2tphH | Liverpool – Plymouth |
| | 2tphH | Holyhead – Swansea |
| | | = 4tph |
40. Water Orton North Junction (HS7) – Water Orton West Junction (HS7)
- | | | |
|--|-------|---------------------------------|
| | 2tphH | York – Birmingham HS |
| | 2tphH | Halifax/Skipton – Birmingham HS |
| | 2tphH | Cleethorpes – Birmingham HS |
| | 2tphH | Skegness – Birmingham HS |
| | | = 8tph |

41. Water Orton West Junction (HS7) – Birmingham HS (Curzon St.)
2tphH York – Birmingham HS
2tphH Halifax/Skipton – Birmingham HS
2tphH Cleethorpes – Birmingham HS
2tphH Skegness – Birmingham HS
2tphH Birmingham HS – Bristol Temple Meads BT
2tphH Birmingham HS – Cardiff Airport
= 12tph
42. Water Orton West Junction (HS7) – Water Orton South Junction (HS7 only)
2tphH Birmingham HS – Bristol Temple Meads BT
2tphH Birmingham HS – Cardiff Airport
= 4tph
43. Water Orton North Junction (HS7) – Water Orton South Junction (HS7 only)
2tphH Newcastle/Middlesborough – Plymouth
2tphH Norwich – Swansea
= 4tph
44. Water Orton North Junction (HS2) – Water Orton South Junction (HS2 only)
2tphH Liverpool – Plymouth
2tphH Holyhead – Swansea
= 4tph
45. Water Orton South Junction – Birmingham Interchange (HS7 only) – Bristol Parkway HS
2tphH Newcastle/Middlesborough – Plymouth
2tphH Norwich – Swansea
2tphH Liverpool – Plymouth
2tphH Holyhead – Swansea
2tphH Birmingham HS – Bristol Temple Meads BT
2tphH Birmingham HS – Cardiff Airport
= 12tph
(The service Worcester Shrub Hill – Paddington via Gloucester travels on classic tracks.)
46. Bristol Parkway – Stadium Junction
2tphH Newcastle/Middlesborough – Plymouth
2tphH Liverpool – Plymouth
2tphH Birmingham HS – Bristol Temple Meads BT
2tphH Norwich via Diss – Plymouth – Penzance / Padstow
2tphH Dover Priory – Bristol Temple Meads BT
= 10tph
47. Brentry Junction – Stadium Junction
2tphH Swansea – Plymouth
= 2tph

48. Stadium Junction – Bristol Temple Meads
2tphH Newcastle/Middlesborough – Plymouth
2tphH Liverpool – Plymouth
2tphH Swansea – Plymouth
2tphH Birmingham HS – Bristol Temple Meads BT
2tphH Norwich via Diss – Plymouth
2tphH Dover Priory – Bristol Temple Meads BT
= 12tph
49. Bristol Temple Meads – Exeter St. David's
2tphH Newcastle/Middlesborough – Plymouth
2tphH Liverpool – Plymouth
2tphH Swansea – Plymouth
2tphH Norwich via Diss – Plymouth – Penzance / Padstow
= 8tph
50. Exeter St. David's – Plymouth
2tphH Newcastle/Middlesborough – Plymouth
2tphH Liverpool – Plymouth
2tphH Swansea – Plymouth
2tphH Exeter St. David's – Plymouth (HS Metro)
2tphH Norwich via Diss – Plymouth – Penzance / Padstow
= 10tph
51. Bristol Parkway – Brentry Junction
2tphH Norwich – Swansea
2tphH Holyhead – Swansea
2tphH Birmingham HS – Cardiff Airport
2tphH Norwich via Beccles – Swansea
2tphH Dover Priory – Cardiff Airport
= 10tph
52. Brentry Junction – Cardiff HS
2tphH Norwich – Swansea
2tphH Holyhead – Swansea
2tphH Plymouth – Swansea
2tphH Birmingham HS – Cardiff Airport
2tphH Norwich via Beccles – Swansea
2tphH Dover Priory – Cardiff Airport
= 12tph
53. Cardiff (HS and Central) – Cardiff Airport
2tphH Norwich – Swansea
2tphH Holyhead – Swansea
2tphH Plymouth – Swansea
2tphH Birmingham HS – Cardiff Airport
2tphH Norwich via Diss – Swansea

2tphH Dover Priory – Cardiff Airport
2tphH Paddington – Swansea – Carmarthen
2tphR Cleethorpes – Cardiff Airport
2tphR Portsmouth Harbour – Cardiff Airport
2tphR Stalybridge – Manchester – Swansea
2tphR Plymouth – Swansea
= 24tph

54. Cardiff Airport – Ewenny South Junction

2tphH Norwich – Swansea
2tphH Holyhead – Swansea
2tphH Plymouth – Swansea
2tphH Paddington – Cardiff Airport via Stroud
2tphH Norwich via Diss – Swansea
2tphR Plymouth – Swansea
2tphR Stalybridge - Swansea
= 14tph

55. Ewenny South Junction – Swansea

2tphH Norwich – Swansea
2tphH Holyhead – Swansea
2tphH Plymouth – Swansea
2tphH Norwich via Diss – Swansea
= 8tph