

HS8/HS9 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). The problem is especially acute with HS3 Mk2, since this is the most complicated of the various routes, involving the most elaborate mix of services and extensive interactions with other routes, most particularly HS8 and HS9.

For my own convenience as much as anything else, the present article elucidates the route loadings corresponding to service plans 2 and 3. Service Plan 2 is the full service plan for HS8/HS9 Mk2 at their full extent, but before the quadrupling has been implemented. (The loadings corresponding to earlier service plans are significantly simpler, and easily understood by a process of working back from SP2.) Service Plan 3 details the situation after quadrupling (between Broughton and Guide Bridge HS junctions) has been completed, and several extra services introduced.

The present article, though really of no interest to anyone but myself, will nonetheless be 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 challenge me personally.

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 2

Non-Transpennine Services:

- 2tphG Liverpool Lime St. – Crewe – Old Oak Common – Euston Cross [→ Hastings]
- 2tphG Preston – Crewe – Old Oak Common – Euston Cross [→ Hastings]
- 1tphC Liverpool Lime St. – Preston (splits/joins) –
– Oxenholme – Carlisle – Lockerbie – Haymarket – Edinburgh Waverley
– Lancaster – Penrith – Carlisle – Lockerbie – Glasgow Central
- 1tphC Birmingham HS – Crewe – Preston (splits/joins) –
– Oxenholme – Carlisle – Lockerbie – Haymarket – Edinburgh Waverley
– Lancaster – Penrith – Carlisle – Lockerbie – Glasgow Central

Southern Transpennine Services:

HS8:

- 2tphG Liverpool Lime Street – Manchester Victoria (LL) – Manchester HS – Sheffield HS – Pancras Cross [HS5 → Tunbridge Wells]
- 2tphGG Preston – Bolton – Manchester Victoria (LL) – Manchester HS – Sheffield HS – Nottingham – Leicester – Northampton – Luton & Dunstable Parkway – Pancras Cross [HS5 → Brighton] (HS Metro)
- 2tphGG Preston – Bolton – Manchester Victoria (LL) – Manchester HS – Sheffield HS – Nottingham – Peterborough – Norwich

Regional Metro:

(Note that **all** these services have the stopping pattern: Manchester Oxford Rd. – Manchester Piccadilly – Stockport – Chinley – Sheffield Midland, which will not be repeated):

- 2tphR Morecambe – Lancaster – Preston – Leyland – Chorley – Horwich Parkway – Bolton – Salford Crescent – Manchester Oxford Rd. → Sheffield Midland (reverse) – Chesterfield – Alfreton and Mansfield Parkway – Langley Mill – Nottingham – Melton Mowbray – Oakham – Stamford – Peterborough – March – Ely (split/joins) –:
– (reverse) Thetford – Wymondham – Norwich
– Cambridge – Stansted Airport
- 2tphR Blackpool North – Poulton le Fylde – Kirkham – Preston – Leyland – Chorley – Horwich Parkway – Bolton – Salford Crescent – Manchester Oxford Rd. → Sheffield Midland – South Yorkshire – Rotherham – Mexborough – Doncaster – Thorne South – Scunthorpe – Barnetby – Grimsby Town - Cleethorpes
- 2tphR Southport – Wigan Wallgate – Bolton – Salford Crescent – Manchester Oxford Rd. → Sheffield Midland – South Yorkshire – Rotherham – Mexborough – Doncaster – Thorne North – Goole – Brough – Hull
- 2tphR Liverpool Lime St. – Liverpool South Parkway – Widnes – Warrington Central – Manchester Oxford Rd. → Sheffield Midland – Worksop – Retford (LL) – Gainsborough Lea Road – Lincoln – Sleaford – Boston – Wainfleet – Skegness

The Southern Transpennine services, HS and RM, all connect at Sheffield HS / Midland. The HS services have cross-platform interchange and the RM services have longer stops to allow for platform change. The Representative Hourly Pattern is:

00GG Preston – Norwich

GG HS3 York – Pancras Cross [HS5 → Brighton] (HS Metro)

R Liverpool – Skegness

07G HS7 Newcastle – Plymouth

(no cross-platform connection)

R Blackpool – Cleethorpes

15GG Preston – Pancras Cross [HS5 → Brighton] (HS Metro)

GG HS7 York – Birmingham HS

R Morecambe – Norwich / Stansted Airport

23G Liverpool – Pancras Cross {HS5 → Tunbridge Wells}

(no cross-platform connection)

R Southport – Hull

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

Representative Hourly Cross-Platform Interchange Pattern at Nottingham:

00GG Preston – Norwich (no connection)

07GG HS3 York – Pancras Cross [HS5 → Brighton] (HS Metro)

C HS7 Birmingham – Cleethorpes

R York – Melton Mowbray – St. Pancras

R Morecambe – Norwich / Stansted Airport

23GG HS3 Preston – Pancras Cross [HS5 → Brighton] (HS Metro)

G HS7 Swansea – Norwich

– repeating at 30, 37 and 53 minutes past.

Northern Transpennine Services:

HS9:

- 2tphGG Liverpool Lime Street – Manchester Victoria (LL) – Manchester HS – Huddersfield – Leeds HS – York HS – Darlington – Durham (Relly Mill) – Consett – Newcastle
- 2tphC Liverpool Lime Street – Manchester Victoria (LL) – Manchester HS – Huddersfield – Leeds HS – Micklefield – York – Thirsk – Northallerton – Yarm – Eaglescliffe – Thornaby – Middlesbrough
- 2tphC Liverpool Lime Street – Manchester Victoria (LL) – Manchester HS – Huddersfield – Leeds HS – Micklefield – York – Thirsk – Northallerton – Yarm – Eaglescliffe – Stockton – Hartlepool – Seaham – Sunderland – Newcastle
- 2tphC Preston – Bolton – Manchester Victoria (LL) – Manchester HS – Huddersfield – Leeds HS – Micklefield – Selby – Hull

- 2tphC Preston – Bolton – Manchester Victoria (LL) – Manchester HS – Huddersfield – Leeds HS – Micklefield – York – Malton – Seamer – Scarborough

Regional Metro:

(Note that **all** these services have the stopping pattern: Salford Central – Manchester Victoria – Stalybridge – Diggle – Marsden – Huddersfield – Mirfield – Dewsbury – Batley – Leeds City, which will not be repeated):

- 2tphR Chester – Helsby – Warrington Bank Quay – Newton le Willows – Salford Central —> Leeds City – Wetherby – Harrogate – Ripon – Northallerton – Yarm – Eaglescliffe – Stockton – Hartlepool – Seaham – Sunderland – Newcastle
- 2tphR Southport – Wigan Wallgate – Bolton – Salford Crescent – Salford Central —> Leeds City – Wetherby – Harrogate – Ripon – Northallerton – Yarm – Eaglescliffe – Thornaby – Middlesbrough
- 2tphR Liverpool Lime St. – St. Helen’s Junction – Newton le Willows – Salford Central —> Leeds City – Micklefield – York – Strensall – Malton – Rillington (NYMR) – Seamer – Scarborough
- 2tphR Blackpool North – Poulton le Fylde – Kirkham – Preston – Leyland – Chorley – Horwich Parkway – Bolton – Salford Crescent – Salford Central —> Leeds City – Micklefield – Selby – Brough – Hull

The Northern Transpennine services, HS and RM, all connect at Huddersfield. The HS services have cross-platform interchange and the RM services have longer stops to allow for platform change. The Representative Hourly Pattern is:

00GG Liverpool – Newcastle

C Preston – Scarborough

R Blackpool – Hull

07GG [HS5 Brighton ->] HS3 Pancras Cross – York (HS Metro)

C Liverpool – Newcastle (via Stockton)

R Southport – Middlesbrough

15G HS7 Plymouth – Newcastle

C Preston – Hull

R Liverpool – Scarborough

23GG HS7 Birmingham HS – York

C Liverpool – Middlesbrough

R Chester – Newcastle (via Stockton)

Service plan 2 imposes the following loadings on HS8:

• Liverpool Lime St.	– Kenyon West Junction	11tph
• Kenyon West Junction	– Kenyon South Junction	2tph
• Kenyon West Junction	– Kenyon North Junction	1tph
• Kenyon West Junction	– Broughton Junction	8tph
• Preston	– Gibb Farm Junction	12tph
• Gibb Farm Junction	– Bamfurlong Junction	4tph
• Gibb Farm Junction	– Broughton Junction	8tph
• Broughton Junction	– Guide Bridge HS Junction	16tph
• Guide Bridge HS Junction	– Ladybower Junction	6tph
• Paddock Junction	– Ladybower Junction	6tph
• Ladybower Junction	– Woodhouse HS Junction	12tph
• Woodhouse HS Junction	– Beighton Junction	12tph
• Beighton Junction	– Nuthall North Junction	18tph
• Nuthall North Junction	– Nuthall South Junction	14tph
• Nuthall South Junction	– Strelley Junction	6tph
• Strelley Junction	– Nottingham station	10tph
• Nottingham station	– Manvers St. Junction	10tph
• Manvers St. Junction	– Edwalton Junction	10tph
• Edwalton Junction	– Asfordby Junction	6tph
• Asfordby Junction	– Thurlby Junction	4tph
• Thurlby Junction	– Pellett Hall Junction	8tph
• Pellett Hall Junction	– Ely HS North Junction	14tph
• Ely HS North Junction	– Ely East Junction	6tph
• Ely HS North Junction	– Ely South Junction	8tph

It likewise imposes the following loadings on HS9 (the section shared with HS3 includes all the other services using that section):

• Guide Bridge HS Junction	– Paddock Junction	10tph
• Paddock Junction	– Gelderd Rd. North Junction	16tph
• Gelderd Rd. North Junction	– Garforth West Junction	18tph
• Garforth West Junction	– Micklefield HS Junction	8tph
• Garforth West Junction	– Garforth East Junction	10tph
• Garforth East Junction	– York HS station	14tph
• York HS station	– Derwent Hill Junction	8tph
• Derwent Hill Junction	– Paradise Junction	6tph
• Paradise Junction	– Newcastle station	10tph

Elucidation of the loadings:

1. Liverpool Lime St. – Kenyon West Junction
2tphG Liverpool – Hastings
1tphC Liverpool – Scotland
2tphG Liverpool – Tunbridge Wells
2tphGG Liverpool – Newcastle
2tphC Liverpool – Middlesbrough
2tphC Liverpool – Newcastle via Hartlepool
= 11tph
2. Kenyon West Junction – Kenyon South Junction
2tphG Liverpool – Hastings
= 2tph
3. Kenyon West Junction – Kenyon North Junction
1tphC Liverpool – Scotland
= 1tph
4. Kenyon West Junction – Broughton Junction
2tphG Liverpool – Tunbridge Wells
2tphGG Liverpool – Newcastle
2tphC Liverpool – Middlesbrough
2tphC Liverpool – Newcastle via Hartlepool
= 8tph
5. Preston – Gibb Farm Junction
2tphG Preston – Hastings
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Preston – Hull (via Micklefield)
2tphC Preston – Scarborough
1tphC Liverpool – Scotland
1tphC Birmingham – Scotland
= 12tph
6. Gibb Farm Junction – Bamfurlong
2tphG Preston – Hastings
1tphC Liverpool – Scotland
1tphC Birmingham – Scotland
= 4tph
7. Gibb Farm Junction – Broughton Junction
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Preston – Hull (via Micklefield)
2tphC Preston – Scarborough
= 8tph

8. Broughton Junction – Guide Bridge HS Junction
2tphG Liverpool – Tunbridge Wells
2tphGG Liverpool – Newcastle
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Liverpool – Middlesbrough
2tphC Liverpool – Newcastle via Hartlepool
2tphC Preston – Hull (via Micklefield)
2tphC Preston – Scarborough
= 16tph
9. Guide Bridge HS Junction – Ladybower Junction
2tphG Liverpool – Tunbridge Wells
2tphGG Preston – Brighton
2tphGG Preston – Norwich
= 6tph
10. Paddock Junction – Ladybower Junction
2tphG Newcastle – Plymouth
2tphGG York – Birmingham HS
2tphGG York – Brighton
= 6tph
11. Ladybower Junction – Woodhouse HS Junction
2tphG Liverpool – Tunbridge Wells
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphG Newcastle – Plymouth
2tphGG York – Birmingham HS
2tphGG York – Brighton
= 12tph
12. Woodhouse HS Junction – Beighton Junction
2tphG Liverpool – Tunbridge Wells
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphG Newcastle – Plymouth
2tphGG York – Birmingham HS
2tphGG York – Brighton
= 12tph
13. Beighton Junction – Nuthall North Junction
2tphG Glasgow – Eastbourne
2tphG Newcastle – Newhaven
2tphG Liverpool – Tunbridge Wells
2tphG York – Leeds HS – Tunbridge Wells
2tphGG York – Brighton

2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphG Newcastle – Plymouth
2tphGG York HS – Birmingham HS
=18tph

14. Nuthall North Junction – Nuthall South Junction

2tphG Glasgow – Eastbourne
2tphG Newcastle – Newhaven
2tphG Liverpool – Tunbridge Wells
2tphG York HS – Leeds HS – Tunbridge Wells
2tphGG York – Brighton
2tphGG Preston – Brighton
2tphGG Preston – Norwich
= 14tph

15. Nuthall South Junction – Strelley Junction

2tphGG York – Brighton
2tphGG Preston – Brighton
2tphGG Preston – Norwich
= 6tph

16. Strelley Junction – Nottingham HS station

2tphG Swansea – Norwich
2tphGG York – Brighton
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Birmingham HS – Cleethorpes
= 10tph

17. Nottingham HS station - Manvers St. Junction

2tphG Swansea – Norwich
2tphGG York – Brighton
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Birmingham HS – Cleethorpes
= 10tph

18. Manvers St. Junction – Edwalton Junction

2tphG Swansea – Norwich
2tphGG York – Brighton
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphR York – St. Pancras (West) via Melton Mowbray
= 10tph

19. Edwalton Junction – Asfordby Junction

2tphG Swansea – Norwich

2tphGG Preston – Norwich

2tphR York – St. Pancras (West) via Melton Mowbray
= 6tph

20. Asfordby Junction – Thurlby Junction

2tphG Swansea – Norwich

2tphGG Preston – Norwich

= 4tph

21. Thurlby Junction – Pellett Hall Junction

2tphG Swansea – Norwich

2tphGG Preston – Norwich

2tphG Hull Paragon – Norwich

2tphG Hull Paragon – Southampton

= 8tph

22. Pellett Hall Junction – Ely HS North Junction

2tphG Swansea – Norwich

2tphGG Preston – Norwich

2tphG Hull Paragon – Norwich

2tphG Hull Paragon – Southampton

2tphC Edinburgh – St. Pancras (East)

2tphC Leeds City – St. Pancras (East)

2tphC Cleethorpes – St. Pancras (East)

= 14tph

23. Ely HS North Junction – Ely HS East Junction

2tphG Swansea – Norwich

2tphGG Preston – Norwich

2tphG Hull Paragon – Norwich

= 6tph

24. Ely HS North Junction – Ely HS South Junction

2tphG Hull Paragon – Southampton

2tphC Edinburgh – St. Pancras (East)

2tphC Leeds City – St. Pancras (East)

2tphC Cleethorpes – St. Pancras (East)

= 8tph

25. Ely HS East Junction – Norwich

2tphG Swansea – Norwich

2tphG Hull Paragon – Norwich

2tphGG Preston – Norwich

2tphGG Southampton – Norwich

= 8tph

26. Guide Bridge HS Junction – Paddock Junction
2tphGG Liverpool – Newcastle
2tphC Liverpool – Middlesborough
2tphC Liverpool – Newcastle via Hartlepool
2tphC Preston – Hull (via Micklefield)
2tphC Preston – Scarborough
= 10tph
27. Paddock Junction – Gelderd Rd. North Junction
2tphG Plymouth – Newcastle
2tphGG Birmingham HS – York
2tphGG Brighton – York
2tphGG Liverpool – Newcastle
2tphC Liverpool – Middlesborough
2tphC Liverpool – Newcastle via Hartlepool
2tphC Preston – Hull (via Micklefield)
2tphC Preston – Scarborough
= 16tph
28. Gelderd. North Junction – Garforth West Junction
2tphG Tunbridge Wells – Leeds HS – York HS
2tphG Plymouth – Newcastle
2tphGG Birmingham HS – York
2tphGG Brighton – York
2tphGG Liverpool – Newcastle
2tphC Liverpool – Middlesborough
2tphC Liverpool – Newcastle via Hartlepool
2tphC Preston – Hull (via Micklefield)
2tphC Preston – Scarborough
= 18tph
29. Garforth West – Garforth East Junction
2tphG Tunbridge Wells – Leeds HS – York HS
2tphG Plymouth – Newcastle
2tphGG Birmingham HS – York
2tphGG Brighton – York
2tphGG Liverpool – Newcastle
= 10tph
30. Garforth West Junction – Micklefield Junction
2tphC Liverpool – Middlesborough
2tphC Liverpool – Newcastle via Hartlepool
2tphC Preston – Hull (via Micklefield)
2tphC Preston – Scarborough
= 8tph

31. Garforth East Junction – York HS
2tphG Eastbourne – Glasgow
2tphG Newhaven – Newcastle
2tphG Tunbridge Wells – Leeds HS – York HS
2tphG Plymouth – Newcastle
2tphGG Liverpool – Newcastle
2tphGG Birmingham HS – York HS
2tphGG Brighton – York
= 14tph
32. York HS – Derwent Hill Junction
2tphG Eastbourne – Glasgow
2tphG Newhaven – Newcastle
2tphG Plymouth – Newcastle
2tphGG Liverpool – Newcastle
= 8tph
33. Derwent Hill Junction – Paradise Junction
2tphG Newhaven – Newcastle
2tphG Plymouth – Newcastle
2tphGG Liverpool – Newcastle
= 6tph
34. Paradise Junction – Newcastle
2tphG Newhaven – Newcastle
2tphG Plymouth – Newcastle
2tphGG Liverpool – Newcastle
2tphG Newcastle – Glasgow
2tphC Newcastle – Carlisle
= 10tph

Service Plan 3

Non-Transpennine Services:

- 2tphG Liverpool Lime St. – Crewe – Old Oak Common – Euston Cross [-> Hastings]
- 2tphG Preston – Crewe – Old Oak Common – Euston Cross [-> Hastings]
- 1tphC Liverpool Lime St. – Preston (splits/joins) –
– Oxenholme – Carlisle – Lockerbie – Haymarket – Edinburgh Waverley
– Lancaster – Penrith – Carlisle – Lockerbie – Glasgow Central
- 1tphC Birmingham HS – Crewe – Preston (splits/joins) –
– Oxenholme – Carlisle – Lockerbie – Haymarket – Edinburgh Waverley
– Lancaster – Penrith – Carlisle – Lockerbie – Glasgow Central

Southern Transpennine Services:

HS8:

- 2tphG Liverpool Lime Street – Manchester Victoria (LL) – Manchester HS – Sheffield HS – Pancras Cross [HS5 -> Tunbridge Wells]
- 2tphG Preston – Bolton – Manchester Victoria (LL) – Manchester HS – Sheffield HS – Pancras Cross [HS5 -> Tunbridge Wells]
- 2tphGG Preston – Bolton – Manchester Victoria (LL) – Manchester HS – Sheffield HS – Nottingham – Leicester – Northampton – Luton & Dunstable Parkway – Pancras Cross [HS5 -> Brighton]
- 2tphGG Preston – Bolton – Manchester Victoria (LL) – Manchester HS – Sheffield HS – Nottingham – Peterborough – Norwich
- 2tphC Liverpool Lime St. – Manchester Victoria (LL) – Manchester HS – Sheffield HS – Worksop – Retford (LL) – Gainsborough Central – Brigg – Hull Paragon
- 2tphC Preston – Bolton – Manchester Victoria (LL) – Manchester HS – Sheffield HS – Worksop – Retford (LL) – Gainsborough Central – Brigg – Grimsby Town – Cleethorpes

Regional Metro:

(Note that **all** these services have the stopping pattern: Manchester Oxford Rd. – Manchester Piccadilly – Stockport – Chinley – Sheffield Midland, which will not be repeated):

- 2tphR Morecambe – Lancaster – Preston – Leyland – Chorley – Horwich Parkway – Bolton – Salford Crescent – Manchester Oxford Rd. —> Sheffield Midland (reverse) – Chesterfield – Alfreton and Mansfield Parkway – Langley Mill – Nottingham – Melton Mowbray – Oakham – Stamford – Peterborough – March – Ely (split/joins) –:
– (reverse) Thetford – Wymondham – Norwich
– Cambridge – Stansted Airport
- 2tphR Blackpool North – Poulton le Fylde – Kirkham – Preston – Leyland – Chorley – Horwich Parkway – Bolton – Salford Crescent – Manchester Oxford Rd. —> Sheffield Midland – South Yorkshire – Rotherham – Mexborough – Doncaster – Thorne South – Scunthorpe – Barnetby – Grimsby Town - Cleethorpes

- 2tphR Southport – Wigan Wallgate – Bolton – Salford Crescent – Manchester Oxford Rd. —> Sheffield Midland – South Yorkshire – Rotherham – Mexborough – Doncaster – Thorne North – Goole – Brough – Hull
- 2tphR Liverpool Lime St. – Liverpool South Parkway – Widnes – Warrington Central – Manchester Oxford Rd. —> Sheffield Midland – Worksop – Retford (LL) – Gainsborough Lea Road – Lincoln – Sleaford – Boston – Wainfleet – Skegness

The Southern Transpennine services, HS and RM, all connect at Sheffield HS / Midland. The HS services have cross-platform interchange and the RM services have longer stops to allow for platform change. The Representative Hourly Pattern is:

00GG Preston – Norwich

GG HS3 York – Pancras Cross [HS5 -> Brighton] (HS Metro)

R Liverpool – Skegness

07G Preston – Pancras Cross [HS5 -> Tunbridge Wells] (*)

G HS7 Newcastle – Plymouth (*)

C Liverpool – Hull (*)

R Blackpool – Cleethorpes

15GG Preston – Pancras Cross [HS5 -> Brighton]

GG HS7 York – Birmingham HS

R Morecambe – Norwich / Stansted Airport

23G Liverpool – Pancras Cross {HS5 -> Tunbridge Wells}

C Preston – Cleethorpes

R Southport – Hull

– repeating at 30, 37, 45 and 53minutes past. (*) What this means is that Preston – Tunbridge Wells and Newcastle – Plymouth have a full cross-platform interchange, then Preston – Tunbridge Wells departs and Liverpool – Hull arrives and has a full cross-platform interconnection with Newcastle – Plymouth; Liverpool – Hull does not connect into Preston – Tunbridge Wells.

Representative Hourly Cross-Platform Interchange Pattern at Nottingham:

00GG Preston – Norwich

C Bournemouth – Newcastle

07GG York – Pancras Cross [HS5 -> Brighton] (HS Metro)

C HS7 Birmingham – Cleethorpes

R York – Melton Mowbray – St. Pancras

R Morecambe – Norwich / Stansted Airport

23GG Preston – Pancras Cross [HS5 -> Brighton] (HS Metro)

G Swansea – Norwich

– repeating at 30, 37 and 53 minutes past.

Northern Transpennine Services:

HS9:

- 2tphGG Liverpool Lime Street – Manchester Victoria (LL) – Manchester HS – Huddersfield – Leeds HS – York HS – Darlington – Durham (Relly Mill) – Consett – Newcastle
- 2tphC Liverpool Lime Street – Manchester Victoria (LL) – Manchester HS – Huddersfield – Leeds HS – Micklefield – York – Thirsk – Northallerton – Yarm – Eaglescliffe – Thornaby – Middlesbrough
- 2tphC Liverpool Lime Street – Manchester Victoria (LL) – Manchester HS – Huddersfield – Leeds HS – Micklefield – York – Thirsk – Northallerton – Yarm – Eaglescliffe – Stockton – Hartlepool – Seaham – Sunderland - Newcastle
- 2tphC Preston – Bolton – Manchester Victoria (LL) – Manchester HS – Huddersfield – Leeds HS – Micklefield – Selby – Hull
- 2tphC Preston – Bolton – Manchester Victoria (LL) – Manchester HS – Huddersfield – Leeds HS – Micklefield – York – Malton – Seamer – Scarborough

Regional Metro:

(Note that **all** these services have the stopping pattern: Salford Central – Manchester Victoria – Stalybridge – Diggle – Marsden – Huddersfield – Mirfield – Dewsbury – Batley – Leeds City, which will not be repeated):

- 2tphR Chester – Helsby – Warrington Bank Quay – Newton le Willows – Salford Central —> Leeds City – Wetherby – Harrogate – Ripon – Northallerton – Yarm – Eaglescliffe – Stockton – Hartlepool – Seaham – Sunderland – Newcastle
- 2tphR Southport – Wigan Wallgate – Bolton – Salford Crescent – Salford Central —> Leeds City – Wetherby – Harrogate – Ripon – Northallerton – Yarm – Eaglescliffe – Thornaby – Middlesbrough
- 2tphR Liverpool Lime St. – St. Helen's Junction – Newton le Willows – Salford Central —> Leeds City – Micklefield – York – Strensall – Malton – Rillington (NYMR) – Seamer – Scarborough
- 2tphR Blackpool North – Poulton le Fylde – Kirkham – Preston – Leyland – Chorley – Horwich Parkway – Bolton – Salford Crescent – Salford Central —> Leeds City – Micklefield – Selby – Brough – Hull

The Northern Transpennine services, HS and RM, all connect at Huddersfield. The HS services have cross-platform interchange and the RM services have longer stops to allow for platform change. The Representative Hourly Pattern is:

00GG Liverpool – Newcastle

C Preston – Scarborough

R Blackpool – Hull

07GG York – Pancras Cross [HS5 -> Brighton] (HS Metro)

C Liverpool – Newcastle (via Stockton)

R Southport – Middlesbrough

15G Plymouth – Newcastle
 C Preston – Hull
 R Liverpool – Scarborough

23GG York – Birmingham
 C Liverpool – Middlesbrough
 R Chester – Newcastle (via Stockton)

Service plan 3 imposes the following loadings on HS8 (note the distinction between main and relief lines on HS3 between Beighton Junction and Nuthall North Junction):

• Liverpool Lime St.	– Kenyon West Junction	13tph
• Kenyon West Junction	– Kenyon South Junction	2tph
• Kenyon West Junction	– Kenyon North Junction	1tph
• Kenyon West Junction	– Broughton Junction	10tph
• Preston	– Gibb Farm Junction	16tph
• Gibb Farm Junction	– Bamfurlong Junction	4tph
• Gibb Farm Junction	– Broughton Junction	12tph
• Broughton Junction	– Guide Bridge HS Junction	22tph
• Guide Bridge HS Junction	– Ladybower Junction	12tph
• Paddock Junction	– Ladybower Junction	6tph
• Ladybower Junction	– Woodhouse HS Junction	18tph
• Woodhouse HS Junction	– Beighton Junction	14tph
• Beighton Junction	– Nuthall North Junction (main)	12tph
• Beighton Junction	– Nuthall North Junction (relief)	12tph
• Nuthall North Junction	– Strelley Junction	8tph
• Strelley Junction	– Nottingham station	14tph
• Nottingham station	– Manvers St. Junction	14tph
• Manvers St. Junction	– Edwalton Junction	14tph
• Edwalton Junction	– Asfordby Junction	6tph
• Asfordby Junction	– Thurlby Junction	4tph
• Thurlby Junction	– Pellett Hall Junction	8tph
• Pellett Hall Junction	– Ely HS North Junction	14tph
• Ely HS North Junction	– Ely East Junction	6tph
• Ely HS North Junction	– Ely South Junction	8tph
• Ely HS East Junction	– Norwich	8tph

It likewise imposes the following loadings on HS9 (the section shared with HS3 includes all the other services using that section):

• Guide Bridge HS Junction	– Paddock Junction	10tph
• Paddock Junction	– Gelderd Rd. North Junction	16tph
• Gelderd Rd. North Junction	– Leeds HS	20tph
• Leeds HS	– Garforth West Junction	16tph
• Garforth West Junction	– Micklefield HS Junction	8tph
• Garforth West Junction	– Garforth East Junction	8tph
• Garforth East Junction	– York HS station	14tph
• York HS station	– Derwent Hill Junction	10tph
• Derwent Hill Junction	– Paradise Junction	8tph
• Paradise Junction	– Newcastle station	12tph

Elucidation of the loadings:

- Liverpool Lime St. – Kenyon West Junction

2tphG Liverpool – Hastings

1tphC Liverpool – Scotland

2tphG Liverpool – Tunbridge Wells

2tphG Liverpool – Newcastle

2tphC Liverpool – Middlesbrough

2tphC Liverpool – Newcastle via Hartlepool

2tphC Liverpool – Hull via Gainsborough

= 13tph
- Kenyon West Junction – Kenyon South Junction

2tphG Liverpool – Hastings

= 2tph
- Kenyon West Junction – Kenyon North Junction

1tphC Liverpool – Scotland

= 1tph
- Kenyon West Junction – Broughton Junction

2tphG Liverpool – Tunbridge Wells

2tphG Liverpool – Newcastle

2tphC Liverpool – Middlesbrough

2tphC Liverpool – Newcastle via Hartlepool

2tphC Liverpool – Hull (via Gainsborough)

= 10tph
- Preston – Gibb Farm Junction

2tphG Preston – Hastings

2tphG Preston – Tunbridge Wells

2tphGG Preston – Brighton

2tphGG Preston – Norwich

2tphC Preston – Hull (via Micklefield)

2tphC Preston – Scarborough
2tphC Preston – Cleethorpes
1tphC Liverpool – Scotland
1tphC Birmingham – Scotland
= 16tph

6. Gibb Farm Junction – Bamfurlong
2tphG Preston – Hastings
1tphC Liverpool – Scotland
1tphC Birmingham – Scotland
= 4tph

7. Gibb Farm Junction – Broughton Junction
2tphG Preston – Tunbridge Wells
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Preston – Hull (via Micklefield)
2tphC Preston – Scarborough
2tphC Preston – Cleethorpes
= 12tph

8. Broughton Junction – Guide Bridge HS Junction
2tphG Liverpool – Tunbridge Wells
2tphG Liverpool – Newcastle
2tphG Preston – Tunbridge Wells
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Liverpool – Middlesbrough
2tphC Liverpool – Newcastle via Hartlepool
2tphC Liverpool – Hull (via Gainsborough)
2tphC Preston – Hull (via Micklefield)
2tphC Preston – Scarborough
2tphC Preston – Cleethorpes
= 22tph

9. Guide Bridge HS Junction – Ladybower Junction
2tphG Liverpool – Tunbridge Wells
2tphG Preston – Tunbridge Wells
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Liverpool – Hull (via Gainsborough)
2tphC Preston – Cleethorpes
= 12tph

10. Paddock Junction – Ladybower Junction
2tphG Newcastle – Plymouth
2tphGG York – Birmingham HS

2tphGG York – Brighton
= 6tph

11. Ladybower Junction – Woodhouse HS Junction
2tphG Liverpool – Tunbridge Wells
2tphG Preston – Tunbridge Wells
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphG Newcastle – Plymouth
2tphGG York – Birmingham HS
2tphGG York – Brighton
2tphC Liverpool – Hull (via Gainsborough)
2tphC Preston – Cleethorpes
= 18tph
12. Woodhouse HS Junction – Beighton Junction
2tphG Liverpool – Tunbridge Wells
2tphG Preston – Tunbridge Wells
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphG Newcastle – Plymouth
2tphGG York – Birmingham HS
2tphGG York – Brighton
= 14tph
13. Beighton Junction – Nuthall North Junction (main lines)
2tphG Glasgow – Eastbourne
2tphG Newcastle – Newhaven
2tphG Liverpool – Tunbridge Wells
2tphG Preston – Tunbridge Wells
4tphG Leeds HS – Tunbridge Wells
= 12tph
14. Beighton Junction – Nuthall North Junction (relief lines)
2tphG Newcastle – Plymouth
2tphG York – Birmingham HS
2tphGG York – Brighton
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Newcastle – Bournemouth
=12tph
15. Nuthall North Junction – Strelley Junction
2tphGG York – Brighton
2tphGG Preston – Brighton
2tphGG Preston – Norwich

2tphC Newcastle – Bournemouth
= 8tph

16. Strelley Junction – Nottingham HS station
2tphG Derby – Portsmouth & Southsea
2tphG Swansea – Norwich
2tphGG York – Brighton
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Newcastle – Bournemouth
2tphC Birmingham HS – Cleethorpes
= 14tph
17. Nottingham HS station – Manvers St. Junction
2tphG Derby – Portsmouth & Southsea
2tphG Swansea – Norwich
2tphGG York – Brighton
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Newcastle – Bournemouth
2tphC Birmingham HS – Cleethorpes
= 14tph
18. Manvers St. Junction – Edwalton Junction
2tphG Derby – Portsmouth & Southsea
2tphG Swansea – Norwich
2tphGG York – Brighton
2tphGG Preston – Brighton
2tphGG Preston – Norwich
2tphC Newcastle – Bournemouth
2tphR York – St. Pancras (West) via Melton Mowbray
= 14tph
19. Edwalton Junction – Asfordby Junction
2tphG Swansea – Norwich
2tphGG Preston – Norwich
2tphR York – St. Pancras (West) via Melton Mowbray
= 6tph
20. Asfordby Junction – Thursby Junction
2tphG Swansea – Norwich
2tphGG Preston – Norwich
= 4tph
21. Thurlby Junction – Pellett Hall Junction
2tphG Swansea – Norwich
2tphGG Preston – Norwich
2tphG Hull Paragon – Norwich

- 2tphG Hull Paragon – Southampton
= 8tph
22. Pellett Hall Junction – Ely HS North Junction
2tphG Swansea – Norwich
2tphGG Preston – Norwich
2tphG Hull Paragon – Norwich
2tphG Hull Paragon – Southampton
2tphC Edinburgh – St. Pancras (East)
2tphC Leeds City – St. Pancras (East)
2tphC Cleethorpes – St. Pancras (East)
= 14tph
23. Ely HS North Junction – Ely HS East Junction
2tphG Swansea – Norwich
2tphGG Preston – Norwich
2tphG Hull Paragon – Norwich
= 6tph
24. Ely HS North Junction – Ely HS South Junction
2tphG Hull Paragon – Southampton
2tphC Edinburgh – St. Pancras (East)
2tphC Leeds City – St. Pancras (East)
2tphC Cleethorpes – St. Pancras (East)
= 8tph
25. Ely HS East Junction – Norwich
2tphG Swansea – Norwich
2tphG Hull Paragon – Norwich
2tphGG Preston – Norwich
2tphGG Southampton – Norwich
= 8tph
26. Guide Bridge HS Junction – Paddock Junction
2tphGG Liverpool – Newcastle
2tphC Liverpool – Middlesbrough
2tphC Liverpool – Newcastle via Hartlepool
2tphC Preston – Hull (via Micklefield)
2tphC Preston – Scarborough
= 10tph
27. Paddock Junction – Gelderd Rd. North Junction
2tphG Plymouth – Newcastle
2tphGG Birmingham HS – York
2tphGG Brighton – York
2tphGG Liverpool – Newcastle
2tphC Liverpool – Middlesbrough
2tphC Liverpool – Newcastle via Hartlepool

2tphC Preston – Hull (via Micklefield)

2tphC Preston – Scarborough

= 16tph

28. Gelderd. North Junction – Leeds HS station

4tphG Tunbridge Wells – Leeds HS

2tphG Plymouth – Newcastle

2tphGG Birmingham HS – York

2tphGG Brighton – York

2tphGG Liverpool – Newcastle

2tphC Liverpool – Middlesborough

2tphC Liverpool – Newcastle via Hartlepool

2tphC Preston – Hull (via Micklefield)

2tphC Preston – Scarborough

= 20tph

29. Leeds HS station – Garforth West Junction

2tphG Plymouth – Newcastle

2tphGG Birmingham HS – York

2tphGG Brighton – York

2tphGG Liverpool – Newcastle

2tphC Liverpool – Middlesborough

2tphC Liverpool – Newcastle via Hartlepool

2tphC Preston – Hull (via Micklefield)

2tphC Preston – Scarborough

= 16tph

30. Garforth West – Garforth East Junction

2tphG Plymouth – Newcastle

2tphGG Birmingham HS – York

2tphGG Brighton – York

2tphGG Liverpool – Newcastle

= 8tph

31. Garforth West Junction – Micklefield Junction

2tphC Liverpool – Middlesborough

2tphC Liverpool – Newcastle via Hartlepool

2tphC Preston – Hull (via Micklefield)

2tphC Preston – Scarborough

= 8tph

32. Garforth East Junction – York HS

2tphG Eastbourne – Glasgow

2tphG Newhaven – Newcastle

2tphG Plymouth – Newcastle

2tphGG Liverpool – Newcastle

2tphGG Birmingham HS – York HS

2tphGG Brighton – York
2tphC Bournemouth – Newcastle
= 14tph

33. York HS – Derwent Hill Junction
2tphG Eastbourne – Glasgow
2tphG Newhaven – Newcastle
2tphG Plymouth – Newcastle
2tphGG Liverpool – Newcastle
2tphC Bournemouth – Newcastle
= 10tph

34. Derwent Hill Junction – Paradise Junction
2tphG Newhaven – Newcastle
2tphG Plymouth – Newcastle
2tphGG Liverpool – Newcastle
2tphC Bournemouth - Newcastle
= 8tph

35. Paradise Junction – Newcastle
2tphG Newhaven – Newcastle
2tphG Plymouth – Newcastle
2tphGG Liverpool – Newcastle
2tphC Bournemouth - Newcastle
2tphG Newcastle – Glasgow
2tphC Newcastle – Carlisle
= 12tph