

MML Service Plans

The Purpose, Background and Method

This article refers to and should be read in conjunction with several other articles. ‘Towards a High Speed **Network**’ is the original, and seeks to make the case for developing a network plan for all the HS routes which will eventually be needed, and, as a contribution to getting the discussion started, gives my own thoughts of what such a network could look like. Naturally, this involved describing a number of routes, in varying but superficial detail.

The article ‘HS3 Route and Service Plans’ deals in detail with HS3, the route from London to Yorkshire, the North East and Scotland. It describes the chosen alignment, with maps, and gives the service plans. Several service plans are developed, reflecting the piecemeal development of the network. As new sections open, further services come into operation. In all cases, consideration is given to maximum loadings – which section(s) are fully loaded and thus determine the maximum service frequencies. In general I take 16tph as the maximum throughput; if this is ever exceeded, the fact will be highlighted. As well as the GC-gauge services running exclusively on HS lines, there are a number of classic-compatible (UK loading gauge) services. These start from St. Pancras West (the Midland platforms), and join HS3 at West Hampstead Junction. They run on HS3 until either Crick Junction, where they join the WCML to Rugby, or Regent St. Junction, immediately before Leicester station (the UHS non-stop services bypass Leicester in tunnel). They then serve many destinations on the classic routes, replicating and replacing the present services to Derby, Sheffield, Leeds, York, Manchester, at the same or better frequencies than at present, but much faster, due to the high speed section between West Hampstead and Leicester. (One CC service is completely new; that serving the West Midlands, Liverpool and Chester.)

The GC-gauge services use the underground station at Pancras Cross, passing through London and then serving destinations in Sussex, and West Kent. The article ‘Cross-London Inter-Regional Connections’ describes all the GC-gauge routes across London and the services provided, and gives detailed network diagrams of important locations on these routes, such as Old Oak Common.

‘HS3 Route and Service Plans’ deals in passing with the Regional Metro services on the classic MML and other classic routes, insofar as these have inter-connection with the HS services. The present article deals in detail with the Regional Metro services on the classic routes, referring to the HS services only insofar as these interconnect with them. It makes reference to the various HS3 service plans, and is structured in a similar sequence. It **only** deals with service plans, since the route has been in existence for quite a long time and is well known. A few significant infrastructure changes are involved: reopening of the route between Bedford and Northampton (essential), and of the Peak route between Matlock and Chinley (highly desirable).

St. Pancras West Terminus

St. Pancras is now logically 3 stations. St. Pancras International occupies the main trainshed, with 5 platforms (5-9) serving HS1’s international services. There are smaller stations either side (‘wing stations’ – Flügelbahnhöfe – in the agreeable German/Swiss usage), St. Pancras East, 3 platforms (10-12) serving HS1’s and HS6’s classic compatibles, and St. Pancras West, 4 platforms (1-4) for HS3’s classic compatibles and the MML services.

The Service Plans

A new service plan comes into effect when some significant change takes place which causes a change to the service loadings of one or more sections of HS3 itself. This most commonly occurs when a new section of HS3 opens, but it may also be a consequence of a change on some other HS route.

The service plans use the following notation:

- tph trains per hour
- G GC gauge train
- GG GC gauge, double deck train
- C classic-compatible train
- R Regional Metro train, semi-fast service
- RS Regional Metro train, stopping service (all stations)

(This notation is not used in service plan 0, as that involves classic, rather than Regional Metro services, and these essentially consist of the current, existing services of the East Midland and Cross Country franchises.)

Service Plan 0

This is the basic service plan, before any part of HS3 opens. It assumes that the MML electrification has been completed, including the sections from Peterborough and Kettering to Leicester via Melton Mowbray (as part of the Strategic Freight Network), the Erewash Valley Line, and between Sheffield and Doncaster / Leeds / York. It likewise assumes that the full Thameslink service is in operation.

MML:

- 1tph St. Pancras – Leicester – Derby – Chesterfield – Sheffield
- 1tph St. Pancras – Leicester – Loughborough – East Midlands Parkway – Long Eaton – Derby – Chesterfield – Sheffield
- 1tph St. Pancras – Market Harborough – Leicester – East Midlands Parkway – Nottingham
- 1tph St. Pancras – Luton Airport Parkway – Luton – Bedford – Wellingborough – Kettering – Market Harborough – Leicester – Loughborough – Beeston – Nottingham
- 1tph St. Pancras – Luton – Bedford – Wellingborough – Kettering – Corby

Cross-Country (XC):

- 2tph Bournemouth – Brockenhurst – Southampton – Southampton Airport Parkway – Winchester – Basingstoke – Reading – Oxford – Banbury – Leamington Spa – Kenilworth – Coventry – Birmingham Int'l – Birmingham New St. (reverse) – Tamworth – Burton-on-Trent – Derby – Chesterfield – Sheffield – Rotherham – Wakefield Westgate – Leeds City – Micklefield – York

Thameslink (partial)

- 2tph Brighton – Haywards Heath – Three Bridges – Gatwick Airport – Redhill – East Croydon – London Bridge – Blackfriars – City Thameslink – Farringdon – St. Pancras – Luton Airport Parkway – Luton – Leagrave – Harlington – Flitwick - Bedford
- 2tph Gatwick Airport – Redhill – East Croydon – London Bridge – Blackfriars – City Thameslink – Farringdon – St. Pancras – Luton Airport Parkway – Luton – Leagrave – Harlington – Flitwick - Bedford

The service plan imposes the following loadings on the MML (fast lines – omitting the Thameslink services):

- | | | |
|-----------------------------|---------------------------------|------|
| • St. Pancras West | – West Hampstead Junction | 5tph |
| • West Hampstead Junction | – Bedford station | 5tph |
| • Bedford station | – Northampton station | 0tph |
| • Bedford station | – Glendon South Junction | 5tph |
| • Glendon South Junction | – Wigston North Junction | 4tph |
| • Wigston North Junction | – Regent St. Junction | 4tph |
| • Regent St. Junction | – Swain St. Junction | 4tph |
| • Swain St. Junction | – Syston South Junction | 4tph |
| • Syston South Junction | – Trent South Junction | 4tph |
| • Trent South Junction | – Nottingham station | 2tph |
| • System South Junction | – Melton Junction | 0tph |
| • Glendon South Junction | – Corby station | 1tph |
| • Corby station | – Manton Junction | 0tph |
| • Manton Junction | – Melton Junction | 0tph |
| • Melton Junction | – Asfordby Junction | 0tph |
| • Asfordby Junction | – Edwalton Junction | 0tph |
| • Edwalton Junction | – Nottingham station | 0tph |
| • Trent South Junction | – Derby station | 2tph |
| • Derby station | – Ambergate South Junction | 4tph |
| • Ambergate South Junction | – Manchester Piccadilly station | 0tph |
| • Ambergate South Junction | – Clay Cross South Junction | 4tph |
| • Nottingham station | – Clay Cross South Junction | 0tph |
| • Clay Cross South Junction | – Sheffield Midland station | 4tph |
| • Sheffield Midland station | – Moorthorpe station | 2tph |
| • Moorthorpe station | – Leeds City station | 2tph |
| • Leeds City station | – Church Fenton station | 2tph |
| • Moorthorpe station | – Church Fenton station | 0tph |
| • Church Fenton station | – York station | 2tph |

Service Plan 1

This service plan comes into effect as soon as the initial section of HS3, from West Hampstead Junction to Crick Junction, opens. Only classic-compatible services are involved, from St. Pancras, and these, most unusually, provide a completely new service on a classic route other than the one directly associated with HS3, specifically to Rugby, Coventry, Birmingham and stations to Liverpool and Chester. The intention is to give Coventry a good HS service (Coventry is otherwise a loser from HS2) and also to free up slots on the WCML south of Rugby. Simultaneously, the classic route from Bedford to Northampton via Olney is reopened, and the following RM services introduced / extended.

HS3:

- 2tphC St. Pancras – Luton Airport Parkway – Northampton – Rugby – Coventry – Birmingham Int'l – Birmingham New Street – Wolverhampton (splits/joins) – :
– Stafford – Crewe – Runcorn – Liverpool South Parkway – Liverpool Lime St.
– Telford – Wellington – Shrewsbury – Wrexham – Chester

MML:

- 2tphR St. Pancras – St. Albans – Luton Airport Parkway – Luton – Bedford – Olney – Northampton – Rugby – Coventry – Birmingham Int'l – Birmingham New Street – University – Bromsgrove – Droitwich Spa – Worcester Shrub Hill
- 2tphR (Crossrail) Brighton → Bedford – Olney – Northampton

Service Plan 1A

This comes into effect shortly afterwards, when the section from Northampton to Leicester opens. Again, only classic compatible services from St. Pancras are involved, and the new ones do indeed replace the classic services to Sheffield and Manchester on the associated classic route.

HS3:

- 2tphC St. Pancras – Luton Airport Parkway – Northampton – Rugby – Coventry – Birmingham International – Birmingham New Street – Wolverhampton → Liverpool/Chester
- 2tphC St. Pancras – Luton Airport Parkway – Northampton – Leicester – Loughborough – East Midlands Parkway – Derby – Chesterfield – Sheffield – Rotherham – Wakefield Westgate – Leeds City – Micklefield – York
- 2tphC St. Pancras – Luton Airport Parkway – Northampton – Leicester – Loughborough – East Midlands Parkway – Derby – Matlock – Bakewell – Miller's Dale (from/to Buxton) – Chinley – Stockport – Manchester Piccadilly (alternatively: Derby – Chesterfield – Sheffield (reverse) – Chinley via the Hope Valley, if the Peak route has not been reopened.)

MML:

- 4tphR St. Pancras – St. Albans – Luton Airport Parkway – Luton – Bedford – Wellingborough – Kettering – Market Harborough – Leicester – Loughborough – East Midlands Parkway – Attenborough – Beeston – Nottingham

- 2tphR St. Pancras – St. Albans – Luton Airport Parkway – Luton – Bedford – Wellingborough – Kettering – Corby
- 2tphR St. Pancras – St. Albans – Luton Airport Parkway – Luton – Bedford – Olney – Northampton – Rugby – Coventry – Birmingham Int'l – Birmingham New St. – University – Bromsgrove – Droitwich Spa – Worcester Shrub Hill.
- 2tphR (Thameslink) Brighton → Bedford – Olney – Northampton

With this service plan, Loughborough, East Midlands Parkway, Derby, Chesterfield, Sheffield, Rotherham, Wakefield and Leeds all retain their existing services to St. Pancras, at the same or better frequencies, but much faster, and Matlock, Bakewell, Miller's Dale, Buxton and Chinley have their former services restored, but much, much improved. (This assumes that the Peak route has by then been reopened. If this is not the case, then the Manchester service travels from Derby to Chinley via Sheffield, with a reversal at Sheffield.)

Representative Hourly Non-Cross-Platform Interchange Pattern at Bedford:

- 00R St. Pancras – Corby
R (Thameslink) Brighton → Northampton
- 07R St. Pancras – Nottingham
(no connection)
- 15R St. Pancras – Birmingham New St. – Worcester
R (Thameslink) Gatwick Airport → Bedford
- 23R St. Pancras – Nottingham
(no connection)

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

Representative Hourly Interchange Pattern at Northampton (not cross-platform):

- 00C St. Pancras – Wolverhampton → Liverpool / Chester
R (Thameslink) Brighton → Northampton
R Euston – Rugby
- 07C St. Pancras – Derby – Sheffield – York
R Euston – Birmingham New St.
- 15R St. Pancras – Birmingham New St. – Worcester
R Euston – Rugby
- 23C St. Pancras – Derby – Matlock (or Sheffield) – Manchester
(no connection at this SP)

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

Representative Hourly Cross-Platform Interchange Pattern at Leicester:

- 00C St. Pancras – Derby – Sheffield – York
R St. Pancras – Loughborough – Nottingham

15C St. Pancras – Derby – Matlock /Sheffield – Manchester

R St. Pancras – Loughborough – Nottingham

– repeating at 30 and 45 minutes past.

Service plan 1 overall imposes the following loadings on the MML:

• St. Pancras West	– West Hampstead Junction	14tph
• West Hampstead Junction	– Bedford station	8tph
• Bedford station	– Northampton station	4tph
• Bedford station	– Glendon South Junction	6tph
• Glendon South Junction	– Wigston North Junction	4tph
• Wigston North Junction	– Regent St. Junction	4tph
• Regent St. Junction	– Swain St. Junction	8tph
• Swain St. Junction	– Syston South Junction	8tph
• Syston South Junction	– Trent South Junction	8tph
• Trent South Junction	– Nottingham station	4tph
• System South Junction	– Melton Junction	0tph
• Glendon South Junction	– Corby station	2tph
• Corby station	– Manton Junction	0tph
• Manton Junction	– Melton Junction	0tph
• Melton Junction	– Asfordby Junction	0tph
• Asfordby Junction	– Edwalton Junction	0tph
• Edwalton Junction	– Nottingham station	0tph
• Trent South Junction	– Derby station	4tph
• Derby station	– Ambergate South Junction	6tph
• Ambergate South Junction	– Manchester Piccadilly station	2/0tph
• Ambergate South Junction	– Clay Cross South Junction	4/6tph
• Nottingham station	– Clay Cross South Junction	0tph
• Clay Cross South Junction	– Sheffield Midland station	4/6tph
• Sheffield Midland station	– Moorthorpe station	4tph
• Moorthorpe station	– Leeds City station	4tph
• Leeds City station	– Church Fenton station	4tph
• Moorthorpe station	– Church Fenton station	0tph
• Church Fenton station	– York station	4tph

Service Plan 2

There is a long hiatus before the next section of HS3 opens. It actually opens as part of HS7's extension from Birmingham (Water Orton North Junction) to Leeds and York, HS3 providing the section from Nottingham station to Nuthall North Junction, where HS7 joins, and onwards to the north. HS7 also provides the link between Awsworth Junction and Strelley Junction, so its services can reach Nottingham. At the same time, the first section of HS9 opens, between Gelderd Rd. North Junction and Garforth East

Junction (and between Garforth West Junction and Micklefield Junction), so, from the beginning, HS services can reach York either directly or via Leeds.

SP2 is not actually a service plan, as far as HS3 is concerned, since no new HS3 services are involved, but it **is** a service plan for the MML as it does involve changes to services and route loadings, due entirely to HS7. It also involves changes to the interchange patterns.

The following XC services are introduced / exist already:

- 2tphR Bournemouth – Brockenhurst – Southampton – Southampton Airport Parkway – Winchester – Basingstoke – Reading – Oxford – Banbury – Leamington Spa – Kenilworth – Coventry – Birmingham Int'l – Birmingham New St. (reverse) – Tamworth – Burton-on-Trent – Derby – Chesterfield – Sheffield – Rotherham – Wakefield Westgate – Leeds City – Micklefield – York
- 2tphR Plymouth – Ivybridge – Totnes – Newton Abbot – Teignmouth – Dawlish – Exeter St. David's – Cullompton – Tiverton Junction – Taunton – Bridgwater – Highbridge – Weston Super Mare – Bristol Temple Meads – Bristol Parkway – Gloucester (reverse) – Cheltenham Spa – Ashchurch – Worcester Shrub Hill – Droitwich Spa – Bromsgrove – University – Birmingham New St. – Tamworth – Burton on Trent – Derby – Chesterfield – Sheffield – Rotherham – Wakefield Westgate – Leeds City – Micklefield – York

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

00G HS7 Plymouth – York
R Bournemouth – York

07G HS4/HS7 Cardiff – Nottingham
C St. Pancras – York

15GG HS7 Birmingham – York
R Plymouth – York

23GG HS7 Birmingham – Nottingham
C St. Pancras – Manchester

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

HS3 service plan 2A covers, inter alia, the extension from York to Newcastle. It is very important, but has no effect on the MML services or loadings.

Service plan 2 overall imposes the following loadings on the MML:

- | | | |
|---------------------------|---------------------------|-------|
| • St. Pancras West | – West Hampstead Junction | 14tph |
| • West Hampstead Junction | – Bedford station | 8tph |
| • Bedford station | – Northampton station | 4tph |
| • Bedford station | – Glendon South Junction | 6tph |
| • Glendon South Junction | – Wigston North Junction | 4tph |
| • Wigston North Junction | – Regent St. Junction | 4tph |
| • Regent St. Junction | – Swain St. Junction | 8tph |
| • Swain St. Junction | – Syston South Junction | 8tph |

• Syston South Junction	– Trent South Junction	8tph
• Trent South Junction	– Nottingham station	4tph
• System South Junction	– Melton Junction	0tph
• Glendon South Junction	– Corby station	2tph
• Corby station	– Manton Junction	0tph
• Manton Junction	– Melton Junction	0tph
• Melton Junction	– Asfordby Junction	0tph
• Asfordby Junction	– Edwalton Junction	0tph
• Edwalton Junction	– Nottingham station	0tph
• Trent South Junction	– Derby station	4tph
• Derby station	– Ambergate South Junction	10tph
• Ambergate South Junction	– Manchester Piccadilly station	2/0tph
• Ambergate South Junction	– Clay Cross South Junction	8/10tph
• Nottingham station	– Clay Cross South Junction	0tph
• Clay Cross South Junction	– Sheffield Midland station	8/10tph
• Sheffield Midland station	– Moorthorpe station	6tph
• Moorthorpe station	– Leeds City station	6tph
• Leeds City station	– Church Fenton station	6tph
• Moorthorpe station	– Church Fenton station	0tph
• Church Fenton station	– York station	6tph

Service Plan 3

This service plan comes into effect when HS3 opens from Pancras Cross to West Hampstead Junction and from Leicester to Nuthall South Junction and Nottingham, and HS8 opens between Ladybower Junction and Paddock Junction. (Note that, during this SP, Pancras Cross is a terminal station.) Two UHS GC-gauge services are introduced, to York via Leeds and to Newcastle. HS Metro services are introduced to York and Preston. This is all immensely important, but its only impact on the MML is that, in addition, the classic route between Melton Mowbray and Nottingham reopens, sharing HS3's route into Nottingham, and the St. Pancras – Corby RM service is extended to York. Another RM service is introduced between Birmingham and Harwich, and this affects loadings between Leicester and Manton Junction.

- 2tphR St. Pancras – St. Albans – Luton Airport Parkway – Luton – Bedford – Wellingborough – Kettering – Corby – Oakham – Melton Mowbray – Nottingham – Langley Mill – Alfreton & Mansfield Parkway – Chesterfield – Sheffield – Rotherham – Pontefract – York.
- 2tphR Birmingham New St. – Coleshill Parkway – Nuneaton – Hinckley – Leicester – Melton Mowbray – Oakham – Stamford – Peterborough – March – Ely – Bury St. Edmunds – Ipswich – Harwich International – Harwich Town

There are new interchange facilities at Leicester, between the new HS Metro service to Preston and the above Regional Metro service from Birmingham to Harwich, and at Nottingham, between the HS Metro service to York via Leeds, and the Regional Metro service from St. Pancras to York via Melton Mowbray.

Representative Hourly Cross-Platform Interchange Pattern at Leicester:

- 00C St. Pancras – Derby – Sheffield – York
- R St. Pancras – Loughborough – Nottingham
- 07GG Pancras Cross – York (HS Metro)
- (no connection)
- 15C St. Pancras – Derby – Matlock/Sheffield – Manchester
- R St. Pancras – Loughborough – Nottingham
- 23GG Pancras Cross – Preston
- R Birmingham New St. – Harwich Town

– repeating at 30, 45 and 53 minutes past.

Representative Hourly Cross-Platform Interchange Pattern at Nottingham:

- 00GG Pancras Cross – York (HS Metro)
- R St. Pancras – Melton Mowbray – York

– repeating at 30 minutes past.

HS3 service plan 3A covers the extension to Scotland. It has no effect on the MML.

Service plan 3 overall imposes the following loadings on the MML:

- St. Pancras West – West Hampstead Junction 14tph
- West Hampstead Junction – Bedford station 8tph
- Bedford station – Northampton station 4tph
- Bedford station – Glendon South Junction 6tph
- Glendon South Junction – Wigston North Junction 4tph
- Wigston North Junction – Regent St. Junction 6tph
- Regent St. Junction – Swain St. Junction 10tph
- Swain St. Junction – Syston South Junction 10tph
- Syston South Junction – Trent South Junction 8tph
- Trent South Junction – Nottingham station 4tph
- System South Junction – Melton Junction 2tph
- Glendon South Junction – Corby station 2tph
- Corby station – Manton Junction 2tph
- Manton Junction – Melton Junction 4tph
- Melton Junction – Asfordby Junction 2tph
- Asfordby Junction – Edwalton Junction 6tph (*)
- Edwalton Junction – Nottingham station 2tph
- Trent South Junction – Derby station 4tph
- Derby station – Ambergate South Junction 10tph
- Ambergate South Junction – Manchester Piccadilly station 2/0tph
- Ambergate South Junction – Clay Cross South Junction 8/10tph
- Nottingham station – Clay Cross South Junction 2tph

- Clay Cross South Junction – Sheffield Midland station 10/12tph
- Sheffield Midland station – Moorthorpe station 8tph
- Moorthorpe station – Leeds City station 6tph
- Leeds City station – Church Fenton station 6tph
- Moorthorpe station – Church Fenton station 2tph
- Church Fenton station – York station 8tph

(* includes 4tph from HS3.)

Service Plan 5A

HS3 service plans 4, 4A, 5 and 5B have no effect whatever on the MML. But plan 5A does, by introducing the service:

- 2tphR Norwich – Wymondham – Thetford – Ely (reverse) –
Stansted Airport – Cambridge – Ely (join/split) –
– March – Peterborough – Stamford – Oakham – Melton Mowbray – Nottingham – Langley Mill
– Alfreton and Mansfield Parkway – Chesterfird – Sheffield (reverse) – Chinley – Stockport –
Manchester Piccadilly – Manchester Oxford Road – Salford Crescent – Bolton – Horwich
Parkway – Chorley – Leyland – Preston – Lancaster – Morecambe

It thus imposes the following loadings on the MML:

- St. Pancras West – West Hampstead Junction 14tph
- West Hampstead Junction – Bedford station 8tph
- Bedford station – Northampton station 4tph
- Bedford station – Glendon South Junction 6tph
- Glendon South Junction – Wigston North Junction 4tph
- Wigston North Junction – Regent St. Junction 6tph
- Regent St. Junction – Swain St. Junction 10tph
- Swain St. Junction – Syston South Junction 10tph
- Syston South Junction – Trent South Junction 8tph
- Trent South Junction – Nottingham station 4tph
- System South Junction – Melton Junction 2tph
- GlendonSouth Junction – Corby station 2tph
- Corby station – Manton Junction 2tph
- Manton Junction – Melton Junction 6tph
- Melton Junction – Asfordby Junction 4tph
- Asfordby Junction – Edwalton Junction 4tph
- Edwalton Junction – Nottingham station 8tph
- Trent South Junction – Derby station 4tph
- Derby station – Ambergate South Junction 10tph
- Ambergate South Junction – Manchester Piccadilly station 2/0tph
- Ambergate South Junction – Clay Cross South Junction 8/10tph
- Nottingham station – Clay Cross South Junction 4tph

- Clay Cross South Junction – Sheffield Midland station 12/14tph
- Sheffield Midland station – Moorthorpe station 8tph
- Moorthorpe station – Leeds City station 6tph
- Leeds City station – Church Fenton station 6tph
- Moorthorpe station – Church Fenton station 2tph
- Church Fenton station – York station 8tph

Service Plan 5 Summary

It's worth summarising the full set of services at service plan 5, as this represents the final, complete state of these plans, and the services have so far been introduced piecemeal, at the various stages.

Note that Pancras Cross is now a through station, and all GC-gauge services start in Sussex or West Kent.

HS3 UHS:

- 2tphG [HS5 Eastbourne →] Pancras Cross – York – Darlington – Durham (Relly Mill) – Consett – Hexham – Hawick – Edinburgh → Glasgow
- 2tphG [HS5 Newhaven →] Pancras Cross – South Yorkshire – York – Darlington – Durham (Relly Mill) – Consett – Newcastle
- 2tphG [HS5 Tunbridge Wells →] Pancras Cross – South Yorkshire – Leeds HS – York
- 2tphC Newcastle – Hexham – stations to Carlisle
- 2tphG Newcastle – Hexham – Hawick – Edinburgh → Glasgow

(Note that the Newcastle – Hexham services are included in the UHS section because they interface with the Edinburgh service.)

HS3 HS Metro:

- 2tphGG [HS5 Brighton →] Pancras Cross – Luton Airport Parkway – Northampton – Leicester – Nottingham – Sheffield HS – Huddersfield – Leeds HS – York
- 2tphGG [HS5 Brighton →] Pancras Cross – Luton Airport Parkway – Northampton – Leicester – Nottingham – Sheffield HS – Manchester HS – Manchester Victoria LL – Bolton – Preston
- 2tphC St. Pancras – Luton Airport Parkway – Northampton – Leicester – Loughborough – East Midlands Parkway – Derby – Chesterfield – Sheffield Midland – Rotherham – Wakefield Westgate – Leeds City – Micklefield – York
- 2tphC St. Pancras – Luton Airport Parkway – Northampton – Leicester – Loughborough – East Midlands Parkway – Derby – Matlock – Bakewell – Miller's Dale – Chinley – Stockport – Manchester Picadilly
- 2tphC Pancras Cross – Luton Airport Parkway – Northampton – Rugby – Coventry – Birmingham International – Birmingham New Street – Wolverhampton (splits/joins) – :
– Stafford – Crewe – Runcorn – Liverpool South Parkway – Liverpool Lime Street
– Telford – Wellington – Shrewsbury – Wrexham – Chester

MML and other (XC) Regional Metro:

- 4tphR St. Pancras – St. Albans – Luton Airport Parkway – Luton – Bedford – Wellingborough – Kettering – Market Harborough – Leicester – Loughborough – East Midlands Parkway – Attenborough – Beeston - Nottingham
- 2tphR St. Pancras – St. Albans – Luton Airport Parkway – Luton – Bedford – Wellingborough – Kettering – Corby – Oakham – Melton Mowbray – Nottingham – Langley Mill – Alfreton & Mansfield Parkway – Chesterfield – Sheffield Midland – Rotherham – Pontefract – York
- 2tphR St. Pancras – St. Albans – Luton Airport Parkway – Luton – Bedford – Olney – Northampton – Rugby – Coventry – Birmingham Int’l – Birmingham New St. – University – Bromsgrove – Droitwich Spa – Worcester Shrub Hill.
- 2tphR (Thameslink) Brighton → Bedford – Olney – Northampton
- 2tphR Birmingham New St. – Coleshill Parkway – Nuneaton – Hinckley – Leicester – Melton Mowbray – Oakham – Stamford – Peterborough – March – Ely – Bury St. Edmunds – Ipswich – Harwich International – Harwich Town
- 2tph Bournemouth – Brockenhurst – Southampton – Southampton Airport Parkway – Winchester – Basingstoke – Reading – Oxford – Banbury – Leamington Spa – Kenilworth – Coventry – Birmingham Int’l – Birmingham New St. (reverse) – Tamworth – Burton-on-Trent – Derby – Chesterfield – Sheffield – Rotherham – Wakefield Westgate – Leeds City – Micklefield – York
- 2tphR Plymouth – Ivybridge – Totnes – Newton Abbot – Teignmouth – Dawlish – Exeter St. David’s – Cullompton – Tiverton Junction – Taunton – Bridgwater – Highbridge – Weston Super Mare – Bristol Temple Meads – Bristol Parkway – Gloucester (reverse) – Cheltenham Spa – Ashchurch – Worcester Shrub Hill – Droitwich Spa – Bromsgrove – University – Birmingham New St. – Tamworth – Burton on Trent – Derby – Chesterfield – Sheffield – Rotherham – Wakefield Westgate – Leeds City – Micklefield – York
- 2tphR Norwich – Wymondham – Thetford – Ely (reverse) –
Stansted Airport – Cambridge – Ely (join/split) –
– March – Peterborough – Stamford – Oakham – Melton Mowbray – Nottingham – Langley Mill – Alfreton and Mansfield Parkway – Chesterfield – Sheffield (reverse) – Cheltenham – Stockport – Manchester Piccadilly – Manchester Oxford Road – Salford Crescent – Bolton – Horwich Parkway – Chorley – Leyland – Preston – Lancaster - Morecambe
- 2tphRS (Tees Valley Metro) Bishop Auckland – Shildon – Newton Aycliffe – Heighington – North Road – Darlington – Dinsdale – Tees-Side Airport – Allen’s West – Eaglescliffe – Tgornaby – Middlesbrough – British Steel (Redcar) – Redcar Central – Redcar East – Marske – Saltburn

Representative Hourly Non-Cross-Platform Interchange Pattern at Bedford:

- 00R St. Pancras – York
R (Thameslink) Brighton – Northampton
- 07R St. Pancras – Nottingham
(no connection)
- 15R St. Pancras – Worcester
R (Thameslink) Gatwick Airport – Bedford

23R St. Pancras – Nottingham
(no connection)

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

Representative Hourly Interchange Pattern at Northampton (the HS3/MML connections are not cross-platform, but the intra-WCML connections are):

00C St. Pancras – Wolverhampton – Liverpool / Chester
R (Thameslink) Brighton – Northampton
R Euston – Crewe via Stoke
R Euston – Rugby

07C St. Pancras – York
R Euston – Birmingham New St.

15R St. Pancras – Birmingham New St. – Worcester Shrub Hill
R Euston – Crewe via Stafford
R Euston – Rugby

23C St. Pancras – Manchester Piccadilly
R Euston – Barrow in Furness

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

Representative Hourly Cross-Platform Interchange Pattern at Leicester:

00C St. Pancras – Derby – Sheffield – York
R St. Pancras – Loughborough – Nottingham

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

15C St. Pancras – Derby – Matlock/Sheffield – Manchester
R St. Pancras – Loughborough – Nottingham

23GG [HS5 Brighton →] Pancras Cross – Preston
R Birmingham New St. – Harwich Town

– repeating at 30, 45 and 53 minutes past.

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

00G HS7 Plymouth – Newcastle
R Bournemouth – York

07G HS4/HS7 Swansea – Norwich
C St. Pancras – York

15GG HS7 Birmingham – York
R Plymouth – York

23GG HS7 Birmingham – Nottingham
C St. Pancras – Manchester

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

Representative Hourly Cross-Platform Interchange Pattern at Nottingham:

00GG HS8 Norwich – Preston

GG HS7 Nottingham – Birmingham HS

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

R St. Pancras – Melton Mowbray – York

R Norwich / Stansted Airport – Morecambe

15G HS8/HS7 Norwich – Swansea

23GG [HS5 Brighton →] Pancras Cross – Preston

– repeating at 30, 37, 45 and 53 minutes past. Note that the Norwich – Swansea service connects into the **following** Preston service; this is not an interchange (there can be little demand to travel from London to Birmingham and South Wales via Nottingham!).

Representative Hourly Cross-Platform Interchange Pattern at Sheffield HS/Midland (refer to the HS Transpennine Routes and Service Plans article for full details of the services). The HS services have cross-platform interchange, and the RM services have longer stops, to allow for the platform change. The pattern is:

00GG [HS5 Brighton →] Pancras Cross – York (HS Metro)

GG HS8 Norwich – Preston

R Skegness - Liverpool

07G HS7 Plymouth – Newcastle

C HS8 Hull – Liverpool

R Cleethorpes – Blackpool

15GG [HS5 Brighton →] Pancras Cross – Preston

GG HS7 Birmingham HS – York

R Norwich / Stansted Airport – Morecambe

23C HS8 Cleethorpes – Liverpool (no cross-platform interchange)

R Hull – Southport

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

(Sharp-eyed, wide-awake readers will note that to effect an **interchange** at Sheffield between the Brighton – York and Norwich – Preston services, taking into account their timings at Nottingham, above, requires the closing of a 7-minute gap. This sort of detail really does require the use of timetabling software, to harmonise and optimise connections at multiple interchange locations. These interchange patterns are an indication of what would be wished in the ideal, not all of which will eventually prove practicable. I merely point out that I had noticed it.)

Representative Hourly Cross-Platform Interchange and Terminating Pattern at York

00G [HS5 Eastbourne ->] Pancras Cross – Glasgow
G Plymouth – Newcastle

07G Pancras Cross – York (UHS, Leeds fast)
C St.Pancras – York (via Derby)

15G [HS5 Newhaven ->] Pancras Cross – Newcastle
GG Birmingham HS – York

23GG [HS5 Brighton ->] Pancras Cross – York (HS Metro)
R St. Pancras – York (via Melton Mowbray)

– repeating at 30, 40, 45 and 55 minutes past. The services terminating at 07 and 23 minutes past are obviously intended for (non-cross-platform) interchange with those 7 / 8 minutes later.