Gweler yr wybodaeth gefndirol a gyflwynwyd gan West Midlands Rail.

Mae'r deunydd yn cynnwys gwybodaeth gefndirol am ddau fater:

- Cysylltedd HS2 â De Cymru

- Trydaneiddio'r rheilffordd rhwng Wolverhampton a'r Amwythig

Importance of Electrification of Wolverhampton – Shrewsbury Line

(Adapted from WMITA / Centro Comments to Network Rail in respect of Electrification RUS Refresh workstream, Sept. '13)

1 Whilst the electrification of Wolverhampton to Shrewsbury rail line is arguably a lower priority for the West Midlands than some other routes, notably:

- Cross Country inter city core network (Derby - Birmingham – Bristol/Cardiff)
- Felixstowe – Nuneaton – Birmingham
- Chiltern Main Line
- Birmingham Snow Hill suburban network

WMITA nevertheless believes that there is a strong potential for development of the rail passenger market on this route, as well as rolling stock and infrastructure efficiency gains which would be realised by electrification and associated line speed improvements between Wolverhampton and Shrewsbury.

2 The importance of Shrewsbury as the Midlands' gateway to Mid Wales and North Wales also needs to be recognised in the context, as does the longer term aspiration for a more frequent, direct service from Shrewsbury and Telford to London.

3 Similarly the potential for future remapping of current "English" services out of the next devolved Welsh rail franchise (such as the Shrewsbury to Birmingham International portion of the current ATW network) potentially provides opportunities to strengthen Shrewsbury's "gateway" status, whilst improving the overall service offer to passengers on the key Birmingham – Shrewsbury corridor.

4 **Birmingham - Wolverhampton – Shrewsbury: Rolling Stock Efficiency**

Following electrification of the Walsall – Rugeley route in December 2017, Birmingham – Shrewsbury will be one of only two London Midland New St service groups (the other being Birmingham to Hereford) still operated by diesel rolling stock.

The current London Midland Birmingham – Shrewsbury service is very inefficient in its use of rolling stock. On a daily basis around 8 different 3 or 4 car trainsets are used to provide the basic hourly off-peak service and 3 additional peak services and there are some long layovers at the Shrewsbury end of the route e.g. between 12.12 and 14.47 when trains are effectively standing idle.

Electrification and use of electric trains (EMUs) with higher acceleration characteristics than the existing rolling stock on the Shrewsbury would allow more efficient diagramming of trains across London Midland's Birmingham services leading to a reduction in the overall rolling stock requirement.

5 **Wolverhampton – Shrewsbury Electrification: Efficient Use of Infrastructure**

There are some longstanding issues with the overall service pattern since, although there are two trains an hour from Birmingham to Shrewsbury, these arrive in

Shrewsbury within 4 minutes of each other, whilst in the opposite direction the two trains depart Shrewsbury within 14 minutes of each other.

	LM	ATW	Gap between Services		ATW	LM	Gap between Services
Birmingham	XX05	XX23	18	Shrewsbury	XX33	XX47	**14**
Shrewsbury	XX14	XX19	**4**	Birmingham	XX28	XX55	27

This not only represents an inefficient use of the double track infrastructure between Wolverhampton and Shrewsbury but also provides a poor service offer for the passenger.

Electrification and use of EMUs would enable the London Midland Shrewsbury services to be better integrated with others on the busy Wolverhampton – Birmingham corridor and offer greater scope for retiming services to improve the overall service pattern and reduce journey times.

There is also a potential synergy here between electrification and the now abandoned Control Period 4 proposal to improve the line speeds on the route with an opportunity to maximise the benefits of both proposals and to minimise the disruption during the necessary infrastructure enhancement works.

6 Wolverhampton – Shrewsbury Electrification: Future Capacity Requirements

In spite of the poor service offer, local rail passenger growth on the Shrewsbury route is continuing to grow at over 3% p.a.

Centro/WMITA believe that there is strong scope for even greater passenger growth on this corridor if the poor generalised journey times to Birmingham (currently over an hour for all stations on the route) can be reduced through the provision of a more frequent (2 tph) local service.

Again it would be easier to integrate this increase in service frequency with existing London Midland electric services on the Birmingham - Wolverhampton corridor if all regional services were provided by electric trains.

7 Wolverhampton – Shrewsbury Electrification: Connectivity to London

London connectivity remains a key issue for passengers, local authorities and businesses in the Shrewsbury and Telford areas. Virgin Trains' recent restoration of a limited service using diesel Voyager trains has had strong regional support, but it is recognised that, with these trains potentially being replaced by new electric trains in the next West Coast Franchise from 2017 (as proposed by both short-listed bidders for the previous cancelled franchise competition), these new services may only provide a stop-gap solution.

Electrification of the route (ideally including the Bushbury – Oxley chord at Wolverhampton) would provide much greater operational flexibility in terms of options to serve this market on a sustainable long term basis and would allow, for example, some Wolverhampton to London services to start/terminate at Shrewsbury, without requiring any additional train paths on the West Coast Main Line.

8 **Wolverhampton – Shrewsbury Electrification: Regional Connectivity**

Post-HS2 there will also be greater scope to improve cross-regional services and provide greater connectivity to centres such as Birmingham Airport and Coventry.

9 **Wolverhampton – Shrewsbury Electrification: Delivering Economic Benefits**

Reducing the Generalised Journey Time to Birmingham for stations on the Wolverhampton to Shrewsbury line, through a combination of faster electric journeys and a more frequent service, is likely to deliver substantial economic benefits especially to Shrewsbury, Wellington and Telford.

Additionally, facilitating the sustainable provision of direct service to London for the longer term is also regarded as essential for the long term economic prosperity of Shropshire and the wider area.

10 **Overall Vision for Shrewsbury – Wolverhampton - Birmingham Corridor**

The Shrewsbury – Wolverhampton rail corridor, whilst relatively poorly served at the moment continues to see strong growth. This appears to be indicative of significant latent demand which could be realised if the Generalised Journey Times into Birmingham could be reduced through a combination of faster journey times, more frequent services and a more evenly spread service pattern. Such improvements would also appear to be capable of delivering significant economic benefits.

The demand for direct connectivity to London has been reflected in Virgin Trains' reintroduction of a limited service to Euston using diesel trains. The West Midlands Regional Rail Forum's Vision is for there to be an hourly Shrewsbury – Telford – London service via the West Midlands.

The future base service pattern is therefore likely to be significantly greater than today's poorly spaced 2 trains per hour (1 London Midland one ATW).

Hourly Service Aspiration by Franchise	**West Midlands**	**West Midlands**	**IC West Coast**	***Wales Franchise ?***
Route	BHM - SHR	BHM - SHR	EUS - SHR	*BHM – Mid/North Wales*
Stopping Pattern	All Stations	All Stations or Semi-Fast	SHR - TFC	*SHR - WLN - TFC*
Train Type	**Electric**	**Electric**	**Electric**	*Diesel*

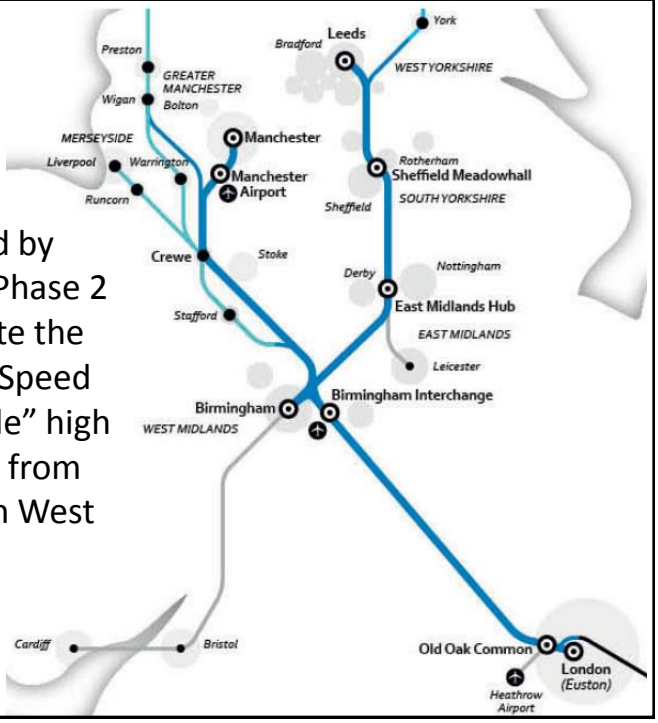
The issue of whether the direct Birmingham to North / Mid Wales service will continue in its current form as part of a future devolved Welsh franchise is obviously a matter for consideration by the Welsh Government and Department for Transport. However, if the Wolverhampton – Shrewsbury route were to be electrified then such a service would almost certainly be the only diesel passenger service on an otherwise fully electric route.

Summary

This improved passenger service offer, coupled with the potential efficiency gains from removing one of the few remaining diesel-operated regional services into Birmingham New St, supports the case for the Wolverhampton - Shrewsbury line to be electrified.

In 2014, the cost of this electrification and associated line speed improvements was estimated (at a high level) to be in the order of £80m. However, no significant work on the development of this scheme has yet been undertaken.

The Maps released by DfT in 2012/3 for Phase 2 of HS2 demonstrate the potential for High Speed "Classic Compatible" high speed rail services from the North to South West and South Wales



The Government's January 2013 ***"High Speed Rail Investing in Britain's Future"*** publication explicitly stated that:

"***Bristol could gain services running on the existing line to Birmingham, and then on at high speed towards Leeds and Manchester, Newcastle and Scotland"***

For this to become a reality there needs to be a physical connection between Phase 1 of the HS2 route and the "classic" rail network in the Birmingham area.

However, not even "passive provision" for such a connection is included in the current Hybrid Bill

According to Network Rail's Long Term Planning Process 2013 Long Distance Market Study,

the market for inter city travel across Birmingham between North and South West / South Wales is likely to increase substantially by 2043

Forecast Passenger Growth To 2043	Nottingham	Sheffield	Leeds	Manchester
Bristol	96%	133%	128%	188%
Cardiff	132%	221%	252%	242%

Potential Impact of HS2 on Journey Times

Journey Times (Approximate)	Current	HS2 (Changing stations in Birmingham)	Via direct rail connection to HS2
Cardiff – Manchester	3 hours 25	3 hours 10	2 hours 45
Cardiff - Leeds	4 hours 5	3 hours 25	3 hours

Splitting High Speed Services Between City Stations is Common Practice Elsewhere

Lille Flandres	dep	07:01	1:01	TGV
Paris Nord	arr	08:02		
Lille Europe	dep	07:13	1:01	TGV
Paris Nord	arr	08:14		
Lille Flandres	dep	07:41	1:03	TGV
Paris Nord	arr	08:44		
Lille Europe	dep	08:13	1:01	TGV
Paris Nord	arr	08:44		

Costs and Benefits

- Passive provision for a link to national rail network on Birmingham - Water Orton Corridor would probably cost less than £20m - considerably cheaper than the £50m originally allocated to the Heathrow junctions
- The West Midlands HS2 connections would have immediate benefits if actually built in terms of:
  - Operational flexibility
  - Depot access
  - Ability to serve other destinations (e.g. Wolverhampton via Birmingham New St) with classic compatible trains (subject to market demand/business case)

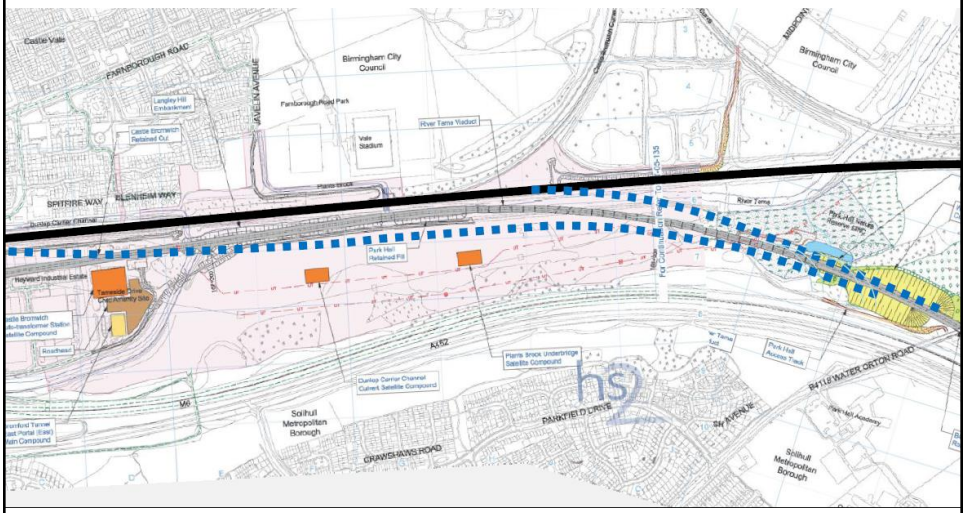
At least ***Three*** high level options appear to exist for a connection between HS2 and Birmingham - Water Orton Rail Corridor

- Curzon St Station / Proof House Junction Area
- Washwood Heath Depot Area
  (Western End of Bromford Tunnel)
- Castle Bromwich Junction Area
  (Eastern End of Bromford Tunnel)

The Castle Bromwich Area connection option would appear to have some advantages:

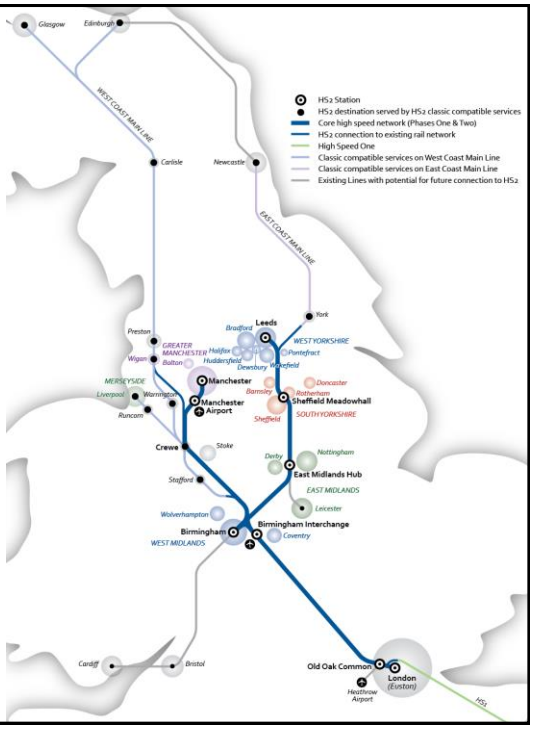
- minimal impact on the proposed HS2 alignment and construction
- avoids complicated station and depot areas
- possible opportunity to incorporate the crossing of the HS2 line by the (towards Birmingham) connection spur into the design of the proposed Bromford tunnel and tunnel portal
  this could assist the provision of a grade-separated flyover and minimise cost

High level concept for a direct rail connection (blue) between HS2 and Birmingham – Water Orton rail corridor (black) in the Castle Bromwich Junction area



(Route of Potential Link is Purely Indicative!)

Opportunity to Create a High Speed Line which is properly integrated into the rest of the national rail network



30 November 2015 HS2 Command Paper

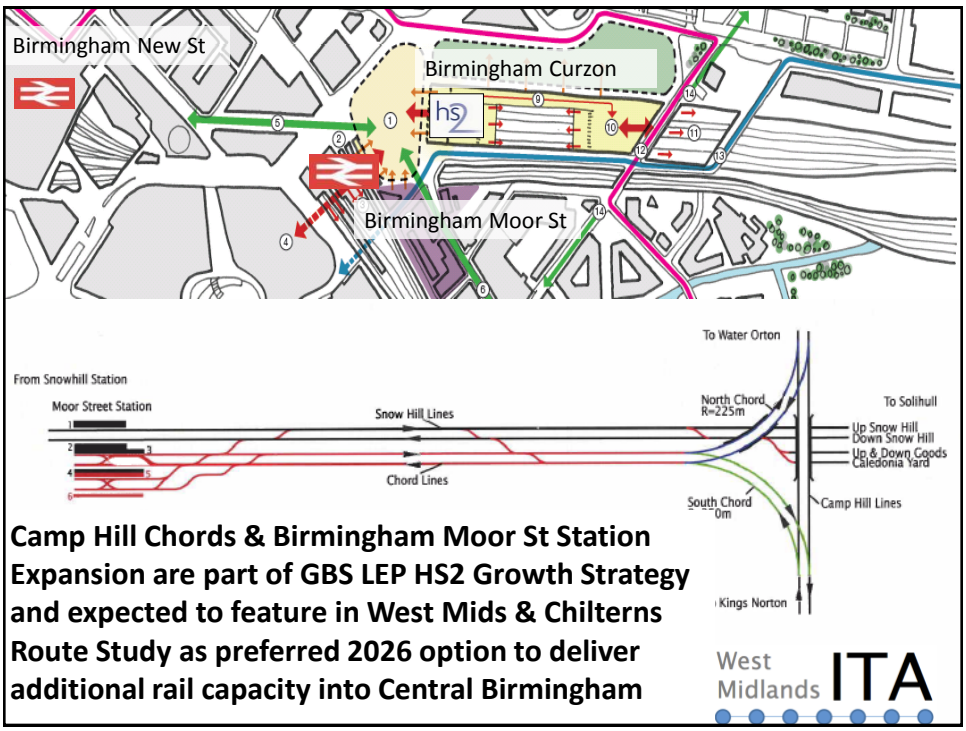
- Confirms UK Government has abandoned the option to link HS2 to the classic rail network in the West Midlands area
- Concludes that: "*Bristol, Gloucestershire & South Wales will still benefit from HS2 by a reduction in travel times for journeys to the north of England*"

WMITA Perspective

The need to change stations in Birmingham will probably incur an interchange penalty of circa 30 minutes for passengers from S Wales

As an alternative, the Camp Hill Chords proposal and expanded capacity at Birmingham Moor St Station could allow:

- some South West / Wales services to use Moor St instead of Birmingham New St Station, which would provide:
- passengers with a much simpler connection to the adjacent HS2 station reducing the interchange penalty to perhaps 15 mins



Camp Hill Chords & Birmingham Moor St Station Expansion are part of GBS LEP HS2 Growth Strategy and expected to feature in West Mids & Chilterns Route Study as preferred 2026 option to deliver additional rail capacity into Central Birmingham

West Midlands ITA