

# HSUK NORTH-WEST CORRIDOR / POTTERIES RAIL STRATEGY

The Potteries conurbation is a major UK industrial area, located approximately equidistant between the larger conurbations of the West Midlands and the North-West. Comprising an agglomeration of smaller communities ie Newcastle under Lyme, and the ‘Six Towns’ of Tunstall, Burslem, Hanley, Stoke, Fenton and Longton (now incorporated as the city of ‘Stoke on Trent’) and the wider Staffordshire Moorlands Borough, its collective population of 450,000 puts it at the fringe of ‘primary city’ status. Yet its hilly local geography/ topography caused Stoke to be bypassed by the Grand Junction Railway (latterly the West Coast Main Line), and a similar fate is set to befall Stoke with the development of HS2.

The following diagrams chart the development of the rail network of the Potteries region, and illustrate the likely impacts of both HS2 and High Speed UK. For precise details of the core High Speed UK proposals (as included in the cost estimates), see the HSUK Regional Maps on [www.highspeeduk.co.uk](http://www.highspeeduk.co.uk).

## PRC1 : NORTH-WEST CORRIDOR/POTTERIES REGIONAL NETWORKS - PRE-1923 GROUPING

The railway network of the North-West Corridor developed from the original 1837 Grand Junction Railway. Running northwards from Birmingham via Stafford and Crewe, and passing through easier topography to the west of the Potteries, the Grand Junction complemented the London & Birmingham Railway and connected to the Liverpool & Manchester at Earlestown to establish the world’s first intercity network. The Grand Junction was later subsumed into the London North-Western (LNW), which controlled all West Coast operations from London to Carlisle and established the regional hub at Crewe. This left Stoke effectively bypassed; here a dense local network was operated by the North Staffordshire Railway, which enjoyed a complete monopoly within the Potteries region.

The region’s trunk network was supplemented by the Great Western, whose main line ran north-westwards from Birmingham to Wolverhampton, Shrewsbury, Chester and ultimately Birkenhead.

## PRC2 : NORTH-WEST CORRIDOR REGIONAL NETWORKS - CONTEMPORARY

The trunk network of the North-West Corridor region remained largely intact through the Beeching era, with only subsidiary branch lines closed. Within the Potteries, the network has reduced to the North Staffordshire main line from Colwich Junction to Macclesfield, and regional routes radiating towards Derby, Stafford and Crewe. With the closure of branches such as the Potteries Loop, and with the closure of most minor stations along the main lines, virtually all Potteries rail activity is concentrated upon Stoke Station. Stoke is currently served by 2 Virgin West Coast trains per hour from London, and 2 CrossCountry trains per hour, all en route to Manchester Piccadilly. However, its connectivity to other regional cities eg Nottingham, Sheffield, Leeds and Liverpool is poor.

## PRC3 : CONNECTIVITY OF LOCAL & INTERCITY RAIL NETWORK TO HS2

The HS2 trunk route is projected to follow the route of the West Coast Main Line, bypassing Stoke and instead serving a new hub station at Crewe. Existing intercity services via Stoke are projected to be reduced to a single train per hour. This reduced intercity connectivity seems likely to have severe economic impacts, and there is local pressure for extra HS2 services to follow the existing Trent Valley route to serve Stoke, Macclesfield and Stockport, but this proposal may not be practicable owing to the restricted capacity of HS2’s 2-track stem.

## PRC4 : CONNECTIVITY OF LOCAL & INTERCITY RAIL NETWORK TO ‘STOKE ROUTE’ VARIANT

The ‘Stoke Route’ comprises a more radical strategy to maintain Stoke’s rail connectivity. This is a proposal, developed by Stoke City Council, to revise the routing of HS2 to pass through Stoke along the existing ‘brownfield’ rail corridor, with a new central station (to the north of the existing) that is harmonised with a much wider urban regeneration project. The revised route would continue north up the Trent valley and into the Cheshire Plain, before rejoining the designed HS2 route north of Crewe. ‘Stoke Hub’ would effectively replace ‘Crewe Hub’ as a primary calling point on HS2 services, whilst maintaining the possibility of serving Crewe via Kidsgrove and Alsager.

The principle of the ‘Stoke Route’ concept - to bring improved connectivity and higher speed services to a much greater population (450,000 for Stoke vs 70,000 for Crewe) - is fundamentally sound. However, it is compromised by its attempt to compete with HS2 on the basis of speed/journey time on the time-sensitive ‘West Coast’ Anglo-Scottish high speed route, and by its assumption of maximum speeds (330km/h on the southern approaches to Stoke, and 230km/h in the environs of Stoke Station), which are unachievable for new

parallel tracks, given the existing curvatures. This may well have provided HS2 Ltd with the pretext it needed to reject the Stoke Route proposals, despite their major advantages.

To illustrate the quality of the connectivity achieved by both HS2 and the 'Stoke Route' variant, a green/amber/red 'traffic light' system indicates stations within 20/40/60 minutes' direct journey from the nearest station at which high speed services to London are planned.

#### **PRC5 : ALTERNATIVE HIGH SPEED UK AND OTHER DEVELOPMENTS TO LOCAL RAIL SYSTEM**

High Speed UK has adopted the 'Stoke Route' philosophy, to eliminate the current bypassing of Stoke by reorienting or enhancing main line corridors through the heart of the Potteries conurbation. With all time-sensitive north-south routes located on the more favourable east side of the country, the new alignments through Stoke can be designed for lesser speeds (230km/h on the southern approaches to Stoke, and 180km/h in the environs of Stoke Station) which can be accommodated along the existing rail corridor.

The High Speed UK proposals for the Potteries comprise the following key project elements:

- Upgrade of the Birmingham-Stoke-Manchester route to achieve sub-1-hour Birmingham-Manchester journey times. Locally to Stoke, this will require completion of the ongoing Norton Bridge flyover project, a new curve to bypass Stone, full 4-tracking of the Trent valley route from Stone through Stoke to Longport, and selective 4-tracking of the onward route to Stockport. This will enhance capacity to allow increased frequency on both intercity and local routes.
- Reorientation of the West Coast Main Line via Stoke. This will divert from the existing WCML north-west of Rugeley and pass on a new alignment following the A51 to the east of Colwich. The route will be upgraded to 230km/h from Hixon to Stone, then tunnel to the east of Stone to join the core 4-track section through Stoke. From Longport, the reoriented WCML will diverge from the existing North Staffs route, to follow the A500 on an accelerated direct route to Stoke.
- Upgrade of the Derby-Stoke route. This is a currently neglected route which, through upgrade and/or elimination of the many level crossings along its length, could offer much faster timings and comprise a new 'North Midlands' intercity route, running Nottingham-Derby-Stoke-Crewe-Warrington-Liverpool.
- Reopening/opening of local stations enabled by 4-tracking of Trent Valley main line, and the segregation of express passenger traffic from slower local traffic.
- Development of new central Stoke station in the Etruria area, generally in line with Stoke City Council plans. This new station is necessary to cope with increased train movements and passenger interchange that will result from Stoke's improved local and national connectivity. The existing station would remain in use as a local facility.

It is important to note that proposed HSUK developments around Stoke should not detract from proposed development of the railway estate in the Crewe area.

#### **PRC6 : CONNECTIVITY OF LOCAL & INTERCITY RAIL NETWORK TO HIGH SPEED UK**

HSUK high speed services will directly access all communities currently served by the national intercity network, and connectivity will at the very least be maintained but in the majority of cases significantly improved. As with HS2 and the 'Stoke Route' variant, a green/amber/red 'traffic light' system indicates stations within 20/40/60 minutes' direct journey of the nearest hub.

HSUK achieves particular connectivity benefits for Stoke, necessary to elevate the city to 'Top 16 core city' status. With main line routes deviated to serve either the existing station or the new site proposed by Stoke City Council, HSUK offers direct connections to all other 15 core regional centres ie London, Heathrow, Milton Keynes, Birmingham, Leicester, Nottingham, Derby, Sheffield, Manchester, Liverpool, Leeds, Darlington, Newcastle, Edinburgh and Glasgow. The HSUK national intercity timetable shows average journey time savings of 46% to these destinations - which illustrates the value of comprehensive connectivity and full integration offered by HSUK, rather than the extreme speed of HS2.

Elsewhere in the North-West Corridor region, improved capacity through Birmingham New Street and across the West Midlands network should permit the operation of through high speed services to Telford and Shrewsbury.

#### **PRC7 : HIGH SPEED UK AND ASSOCIATED FREIGHT DEVELOPMENTS**

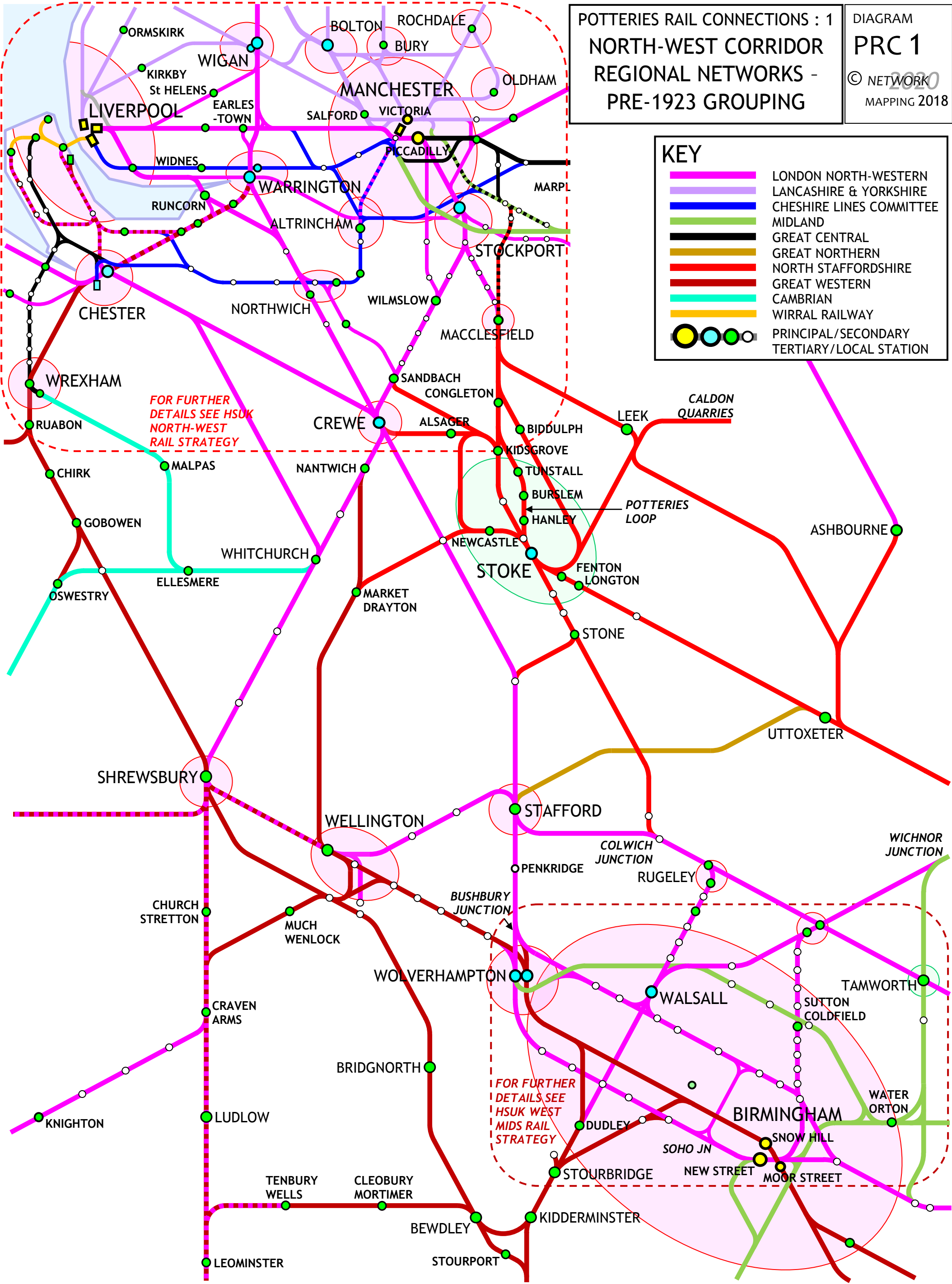
Currently, little if any railfreight is conveyed to or from the Potteries conurbation. However, given its status as a major hub of UK industry, it is important that railfreight facilities are maintained, and that capacity is provided to accommodate new freight flows. HSUK satisfies this requirement through the 4-tracking of the core Stone-Longport section, which allows slower freight and local passenger flows to be segregated from express passenger flows. Equally importantly, the HSUK proposals also make allowance for approach routes with sufficient capacity, particularly from the West Midlands where HSUK proposals for faster and higher-volume flows along the Bushbury-Stafford Grand Junction route may necessitate the diversion of freight flows onto the Walsall-Cannock-Rugeley line.

POTTERIES RAIL CONNECTIONS : 1  
 NORTH-WEST CORRIDOR  
 REGIONAL NETWORKS -  
 PRE-1923 GROUPING

DIAGRAM  
**PRC 1**  
 © NETWORK  
 2020  
 MAPPING 2018

**KEY**

- LONDON NORTH-WESTERN
- LANCASHIRE & YORKSHIRE
- CHESHIRE LINES COMMITTEE
- MIDLAND
- GREAT CENTRAL
- GREAT NORTHERN
- NORTH STAFFORDSHIRE
- GREAT WESTERN
- CAMBRIAN
- WIRRAL RAILWAY
- PRINCIPAL/SECONDARY
- TERTIARY/LOCAL STATION

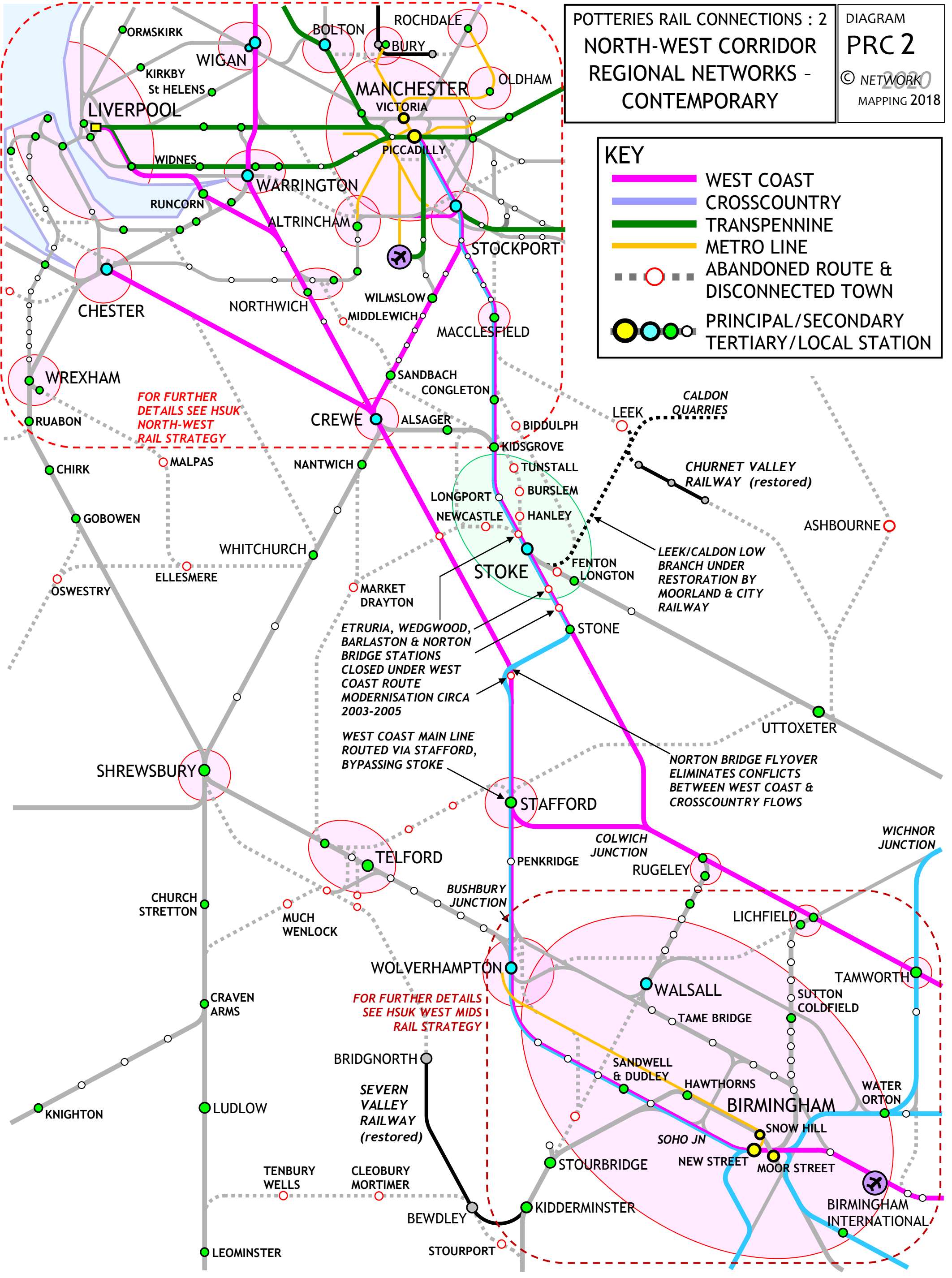


POTTERIES RAIL CONNECTIONS : 2  
 NORTH-WEST CORRIDOR  
 REGIONAL NETWORKS -  
 CONTEMPORARY

DIAGRAM  
**PRC 2**  
 © NETWORK  
 2020  
 MAPPING 2018

**KEY**

- WEST COAST
- CROSSCOUNTRY
- TRANSPENNINE
- METRO LINE
- - - ○ ABANDONED ROUTE & DISCONNECTED TOWN
- ● ● ○ PRINCIPAL/SECONDARY TERTIARY/LOCAL STATION





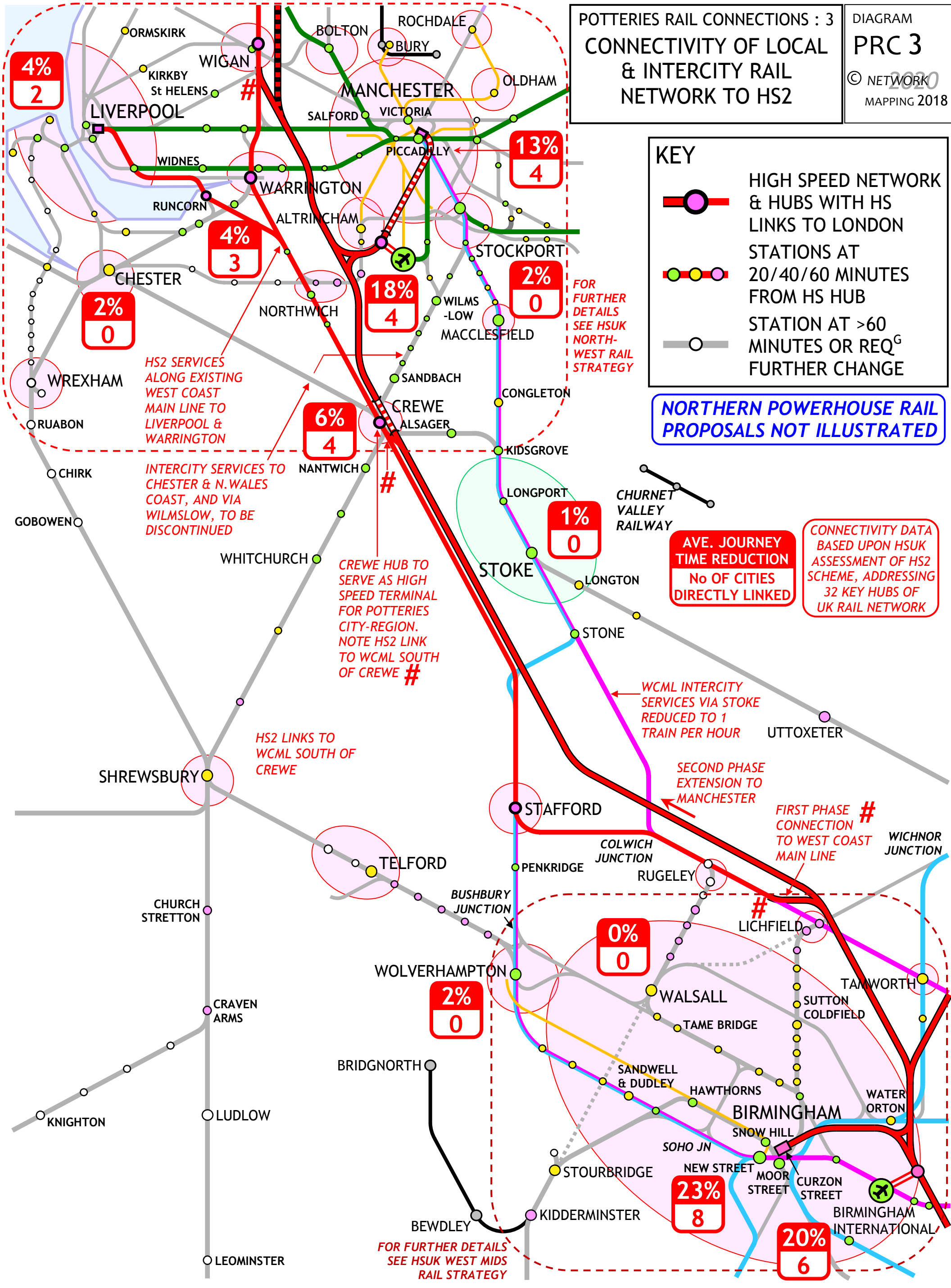
POTTERIES RAIL CONNECTIONS : 3  
**CONNECTIVITY OF LOCAL  
 & INTERCITY RAIL  
 NETWORK TO HS2**

DIAGRAM  
**PRC 3**  
 © NETWORK  
 MAPPING 2018

**KEY**

- HIGH SPEED NETWORK & HUBS WITH HS LINKS TO LONDON
- STATIONS AT 20/40/60 MINUTES FROM HS HUB
- STATION AT >60 MINUTES OR REQ<sup>G</sup> FURTHER CHANGE

**NORTHERN POWERHOUSE RAIL PROPOSALS NOT ILLUSTRATED**



FOR FURTHER DETAILS SEE HSUK NORTH-WEST RAIL STRATEGY

HS2 SERVICES ALONG EXISTING WEST COAST MAIN LINE TO LIVERPOOL & WARRINGTON

INTERCITY SERVICES TO CHESTER & N. WALES COAST, AND VIA WILMSLOW, TO BE DISCONTINUED

CREWE HUB TO SERVE AS HIGH SPEED TERMINAL FOR POTTERIES CITY-REGION. NOTE HS2 LINK TO WCML SOUTH OF CREWE #

HS2 LINKS TO WCML SOUTH OF CREWE

AVE. JOURNEY TIME REDUCTION  
**No OF CITIES DIRECTLY LINKED**

CONNECTIVITY DATA BASED UPON HSUK ASSESSMENT OF HS2 SCHEME, ADDRESSING 32 KEY HUBS OF UK RAIL NETWORK

WCML INTERCITY SERVICES VIA STOKE REDUCED TO 1 TRAIN PER HOUR

SECOND PHASE EXTENSION TO MANCHESTER

FIRST PHASE CONNECTION TO WEST COAST MAIN LINE #

FOR FURTHER DETAILS SEE HSUK WEST MIDS RAIL STRATEGY

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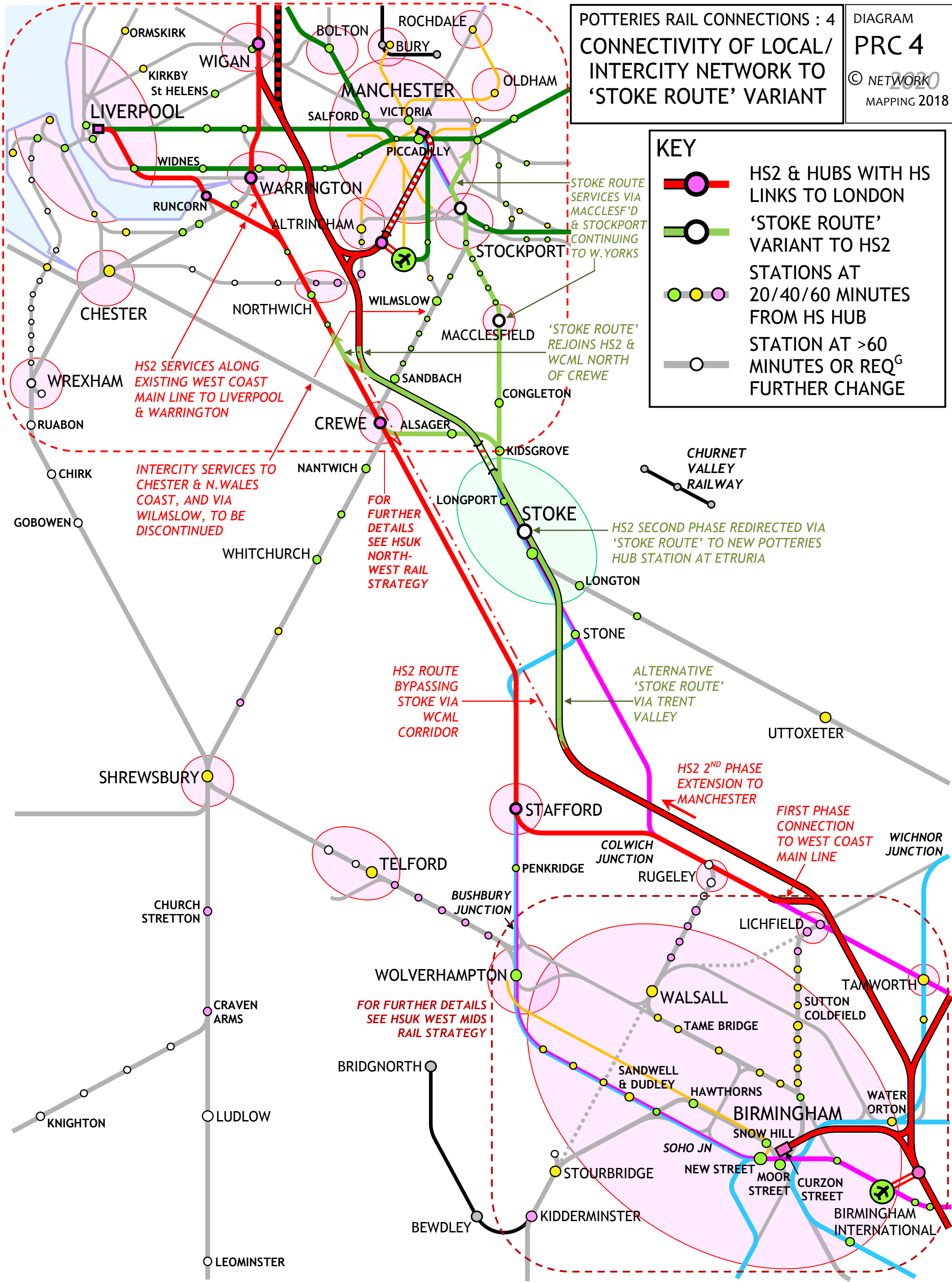
20%  
6

POTTERIES RAIL CONNECTIONS : 4  
**CONNECTIVITY OF LOCAL/  
 INTERCITY NETWORK TO  
 'STOKE ROUTE' VARIANT**

DIAGRAM  
**PRC 4**  
 © NETWORK  
 2020  
 MAPPING 2018

**KEY**

-  HS2 & HUBS WITH HS LINKS TO LONDON
-  'STOKE ROUTE' VARIANT TO HS2
-  STATIONS AT 20/40/60 MINUTES FROM HS HUB
-  STATION AT >60 MINUTES OR REQ<sup>G</sup> FURTHER CHANGE



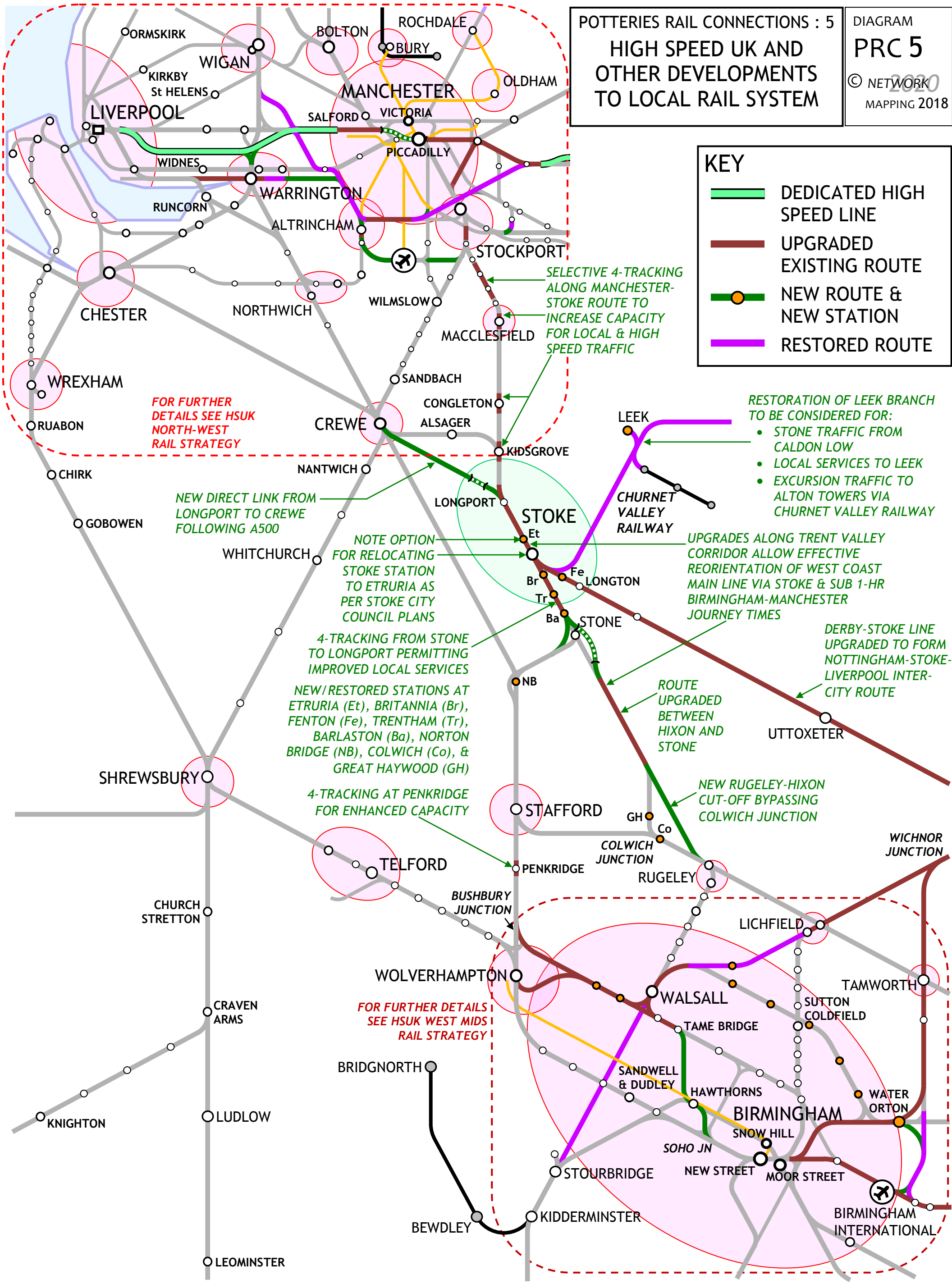


POTTERIES RAIL CONNECTIONS : 5  
**HIGH SPEED UK AND  
 OTHER DEVELOPMENTS  
 TO LOCAL RAIL SYSTEM**

DIAGRAM  
**PRC 5**  
 © NETWORK  
 MAPPING 2018

**KEY**

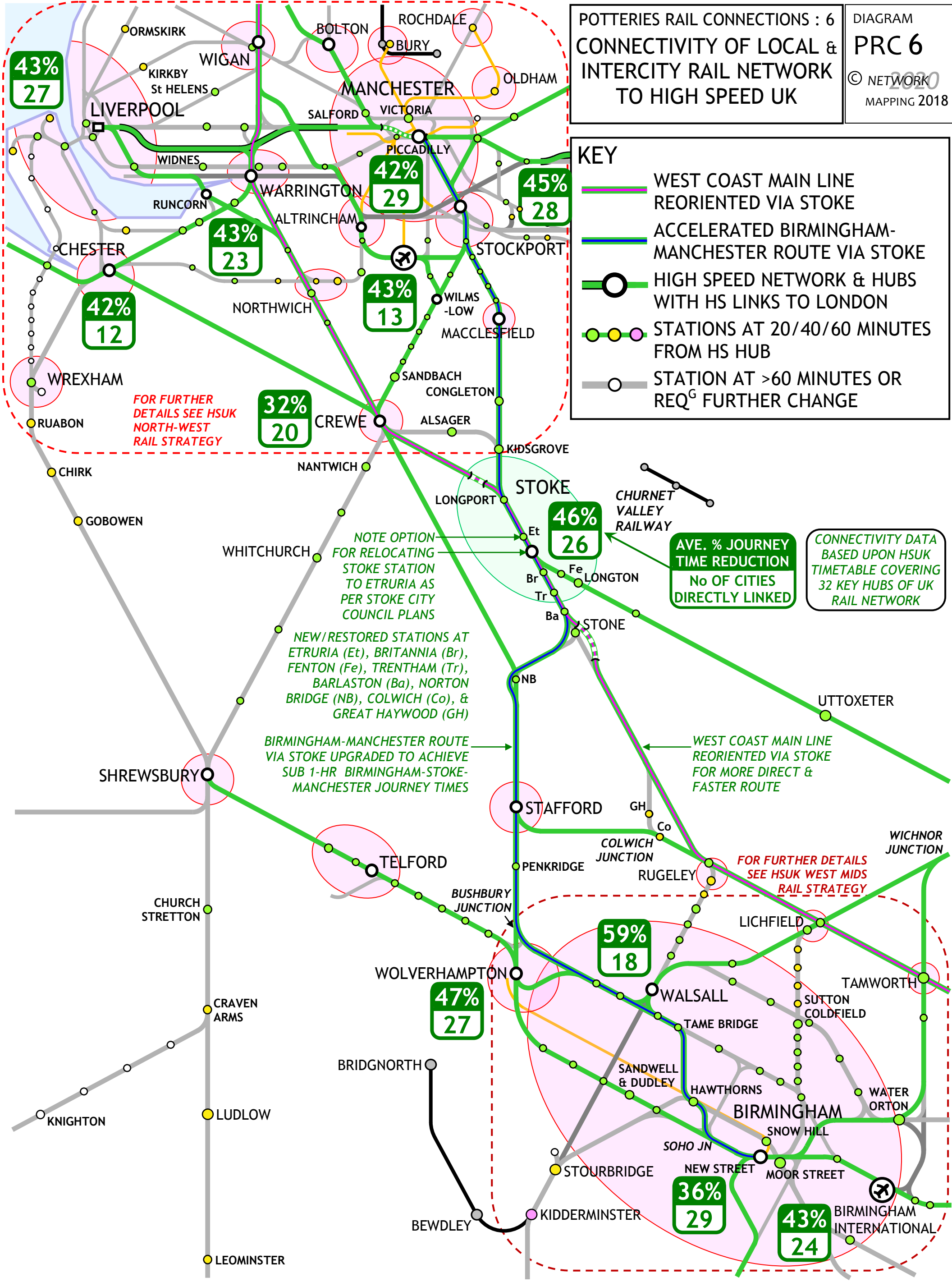
- DEDICATED HIGH SPEED LINE
- UPGRADED EXISTING ROUTE
- NEW ROUTE & NEW STATION
- RESTORED ROUTE



POTTERIES RAIL CONNECTIONS : 6  
**CONNECTIVITY OF LOCAL & INTERCITY RAIL NETWORK TO HIGH SPEED UK**  
 DIAGRAM  
**PRC 6**  
 © NETWORK 2020  
 MAPPING 2018

**KEY**

- WEST COAST MAIN LINE REORIENTED VIA STOKE
- ACCELERATED BIRMINGHAM-MANCHESTER ROUTE VIA STOKE
- HIGH SPEED NETWORK & HUBS WITH HS LINKS TO LONDON
- STATIONS AT 20/40/60 MINUTES FROM HS HUB
- STATION AT >60 MINUTES OR REQ<sup>G</sup> FURTHER CHANGE









POTTERIES RAIL CONNECTIONS : 7  
**HIGH SPEED UK AND  
 ASSOCIATED FREIGHT  
 DEVELOPMENTS**

DIAGRAM  
**PRC 7**  
 © NETWORK  
 2020  
 MAPPING 2018

**KEY**

-  NEW HIGH SPEED LINE
-  TRUNK FREIGHT ROUTE & YARD
-  EUROGAUGE-CAPABLE FREIGHT ROUTE
-  RESTORED/NEW/UPGRADED ROUTE

