

HSUK EAST MIDLANDS RAIL STRATEGY

The East Midlands conurbation is an urban agglomeration centred upon Leicester, Nottingham and Derby. Although its total population is somewhat less than the 2,500,000 of the West Midlands, it is a similar distance from London, and it would seem logical to have developed HS2 in a manner similar to the M1, choosing an alignment that enabled both West and East Midlands to be served upon completion of the first phase of the project. Yet Phase 1 of HS2 was exclusively focussed upon the West Midlands, and high speed rail will only extend to the East Midlands in the second phase of the project. The proposed HS2 route will completely bypass Leicester, and an 'East Midlands Interchange' will be located on the Erewash Valley route at Toton, equally remote from both Derby and Nottingham. Unsurprisingly, there is much concern as to whether the proposed 'East Midlands Interchange', located remote from all 3 primary urban centres, will adequately serve the East Midlands, providing connectivity enhancements commensurate with the proposed multi-billion pound investment. The following diagrams define existing East Midlands rail connectivity, and assess the capability of both HS2 and the alternative High Speed UK proposals to effect the necessary connectivity improvements.

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.

EMN1 : EAST MIDLANDS REGIONAL NETWORK - PRE-1923 GROUPING

The East Midlands' primary intercity rail network was developed from 1840 onwards by a variety of companies that rapidly agglomerated into the Midland Railway. The system was focussed upon Derby, with routes extending northwards to Sheffield and Leeds, southwards to Leicester and (ultimately) London, and south-westwards to Birmingham and Bristol. Nottingham's location was relatively peripheral until a secondary route to London via Corby and Melton Mowbray was completed in 1878. The Midland's monopoly remained largely intact until 1899, when the Great Central Railway from Sheffield to London via Nottingham and Leicester was completed.

EMN2 : EAST MIDLANDS REGIONAL NETWORK - CONTEMPORARY

In the modern era, the Midland and CrossCountry Main Lines have developed from the original Midland Railway routes, offering a high quality of service to Derby; but with closure of the Great Central, and of the through route to Nottingham via Melton Mowbray, both Leicester and Nottingham have been left relatively isolated from the wider national intercity network. It is significant to note that despite the incursion of the Great Central, Great Northern and London North-Western into the territory first occupied by the Midland, the newer lines have generally not survived and the network has largely regressed to the original Midland Railway.

EMN3 : CONNECTIVITY OF LOCAL & INTERCITY RAIL NETWORK TO HS2

Under current HS2 proposals, the East Midlands would be served by a single 'East Midlands Interchange' located at Toton Yard on the Erewash Valley line. This is remote from the centres of all 3 city centres (of Leicester, Nottingham and Derby) and no local passenger services currently operate through Toton. No credible proposals have yet emerged, to demonstrate how Toton would be effectively integrated with the East Midlands railway network. To provide any local rail connections, it would be necessary to divert existing services, considerably lengthening journey times; additionally, intercity services to the existing city centre stations are projected to be reduced. It is difficult to see how HS2 would bring any tangible benefit to the East Midlands.

EMN4 : HIGH SPEED UK AND OTHER DEVELOPMENTS TO LOCAL RAIL SYSTEM

EMN5 : CONNECTIVITY OF LOCAL & INTERCITY RAIL NETWORK TO HSUK

Far greater connectivity can be achieved with the High Speed UK proposals. The M1-oriented spinal route will pass through Leicester's existing London Road Station, establishing that station as the primary hub for the entire South-East Midlands. HSUK will continue up the Soar Valley via Loughborough. Its route via Toton Yard will be similar to that of HS2, but rather than build a parkway station there, high speed services will branch off onto the existing network to access the existing hubs at Derby and Nottingham. Northward connectivity for Derby will be achieved by restoration of the former Great Northern route to access HSUK in the Erewash Valley near Eastwood; and the 'Derby Teardrop' (ie the original Midlands Counties route running north of Pride Park) will be restored to permit Nottingham-Birmingham services to pass through Derby without the need to reverse. Nottingham's relative isolation will be remedied by upgrading the Grantham line to intercity standard, and by restoration of the former Great Northern route from Bottesford to Newark Northgate. This will connect Nottingham to the East Coast Main Line in both northward and southward directions.

HSUK's routeing through Leicester, and northwards along the Midland Main Line as far as Syston Junction, will effectively preclude freight operation along this section of route. This will affect both north-south Midland Main Line flows, and east-west Felixstowe-Nuneaton container flows. Fortunately, it is possible to divert both flows via Corby, requiring only the construction of new chords at Manton and Glendon Junctions. The diagram also identifies a potential north-south Continental Gauge freight route, to be linked to the Channel Tunnel and (locally) following Midland Main Line to Leicester, 'Ivanhoe' Line from Leicester to Burton and northwards via the Derby Avoider and the Erewash Valley Line. This meets the essential criteria of a) no critical usage (permitting blockades for construction works) and b) no major stations or tunnels.

EMN8 : MIDLANDS CONNECTIVITY ACHIEVED VIA HSUK 'MIDLANDS RING'

In June 2019 Midlands Connect released proposals for the ‘Midlands Rail Hub’ (MRH). The Midlands Rail Hub is the long-awaited scheme intended to:

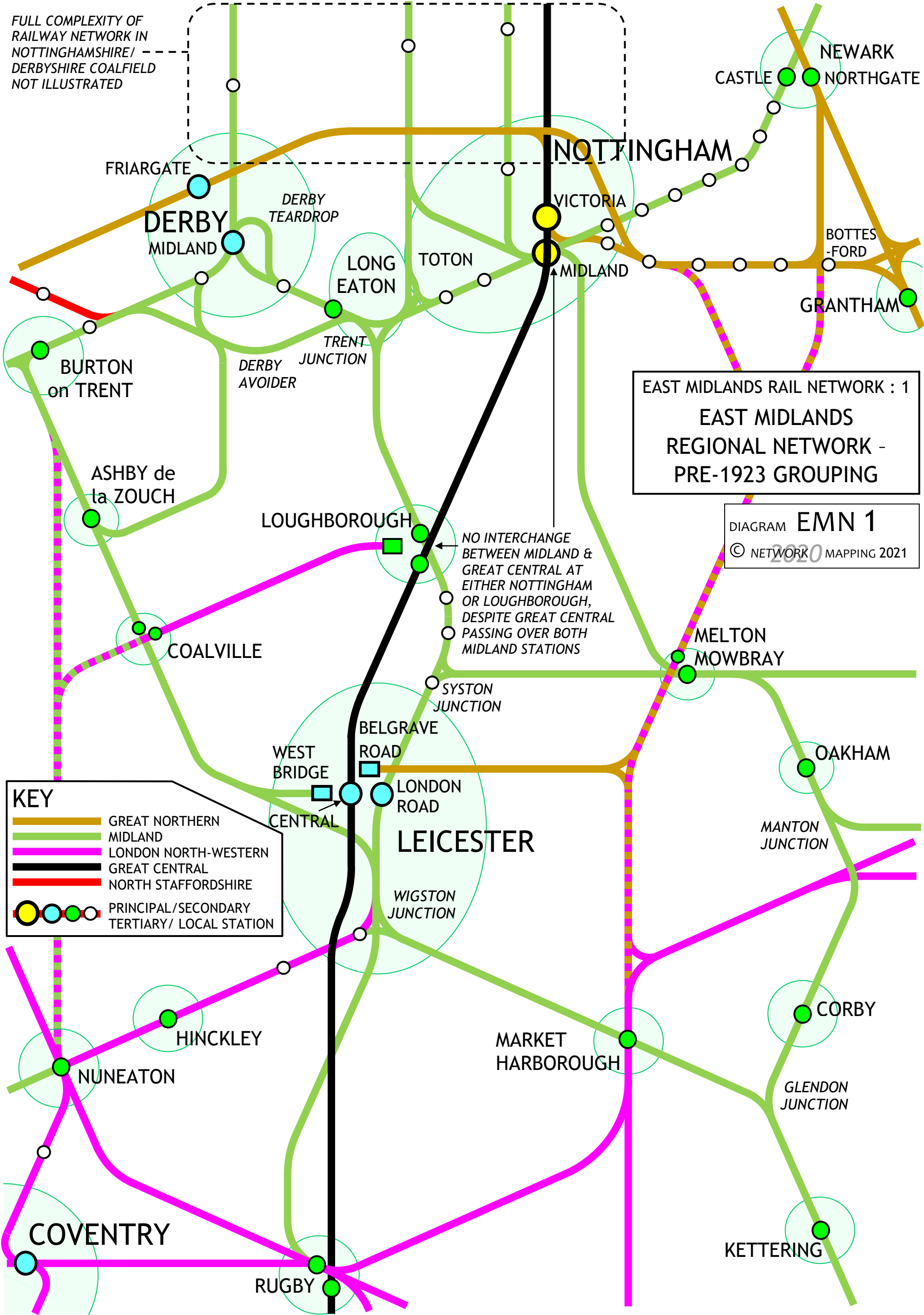
- The centrepiece of the MRH scheme is the development of the currently disused terminus platforms at Birmingham Moor Street, with services extending (by means of new chord lines to the Saltley-Kings Norton 'Camp Hill' line) to Nottingham and Leicester, and to Bristol, Cardiff and Hereford. The proximity of Moor Street to the adjacent HS2 terminus at Curzon Street would allow the establishment of a dedicated travelator (or similar) link, for easy passenger transfer to HS2 services.

The extent of the lost opportunity that the Midlands Rail Hub represents can only be truly appreciated by contrasting its connectivity performance with that of High Speed UK in the Midlands. Unlike HS2's exclusive intervention of new-build high speed lines, the HSUK intervention comprises a blend of new construction, the 4-tracking of the key radial routes approaching Birmingham New Street, and the restoration of abandoned routes:

- Although these interventions are primarily intended to facilitate the creation of a national network, they also have the hugely beneficial effect of enabling the creation of a ‘Midlands Ring’ by which all the principal centres of the East and West Midlands can for the first time be fully interconnected by direct and frequent high speed services. The success of the HSUK Midlands Ring can be attributed to 2 principal factors: HSUK’s full integration with the existing network, and its avoidance of terminus stations.

HS2/Midlands Rail Hub Connectivity Performance

HSUK Midlands Connectivity Performance



FULL COMPLEXITY OF RAILWAY NETWORK IN NOTTINGHAMSHIRE/DERBYSHIRE COALFIELD NOT ILLUSTRATED

EAST MIDLANDS RAIL NETWORK : 1
EAST MIDLANDS REGIONAL NETWORK - PRE-1923 GROUPING

DIAGRAM EMN 1
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KEY

GREAT NORTHERN

MIDLAND

LONDON NORTH-WESTERN

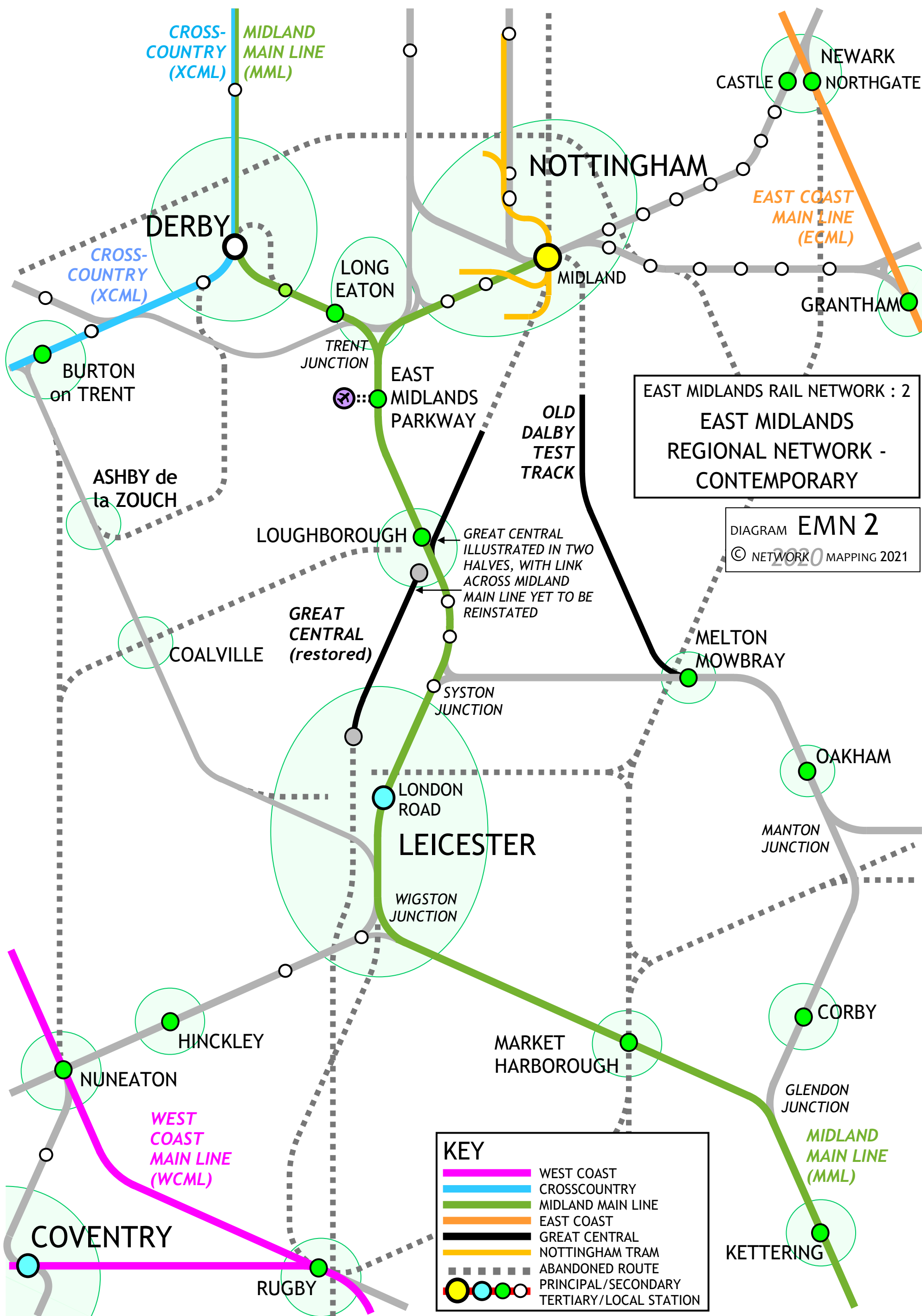
GREAT CENTRAL

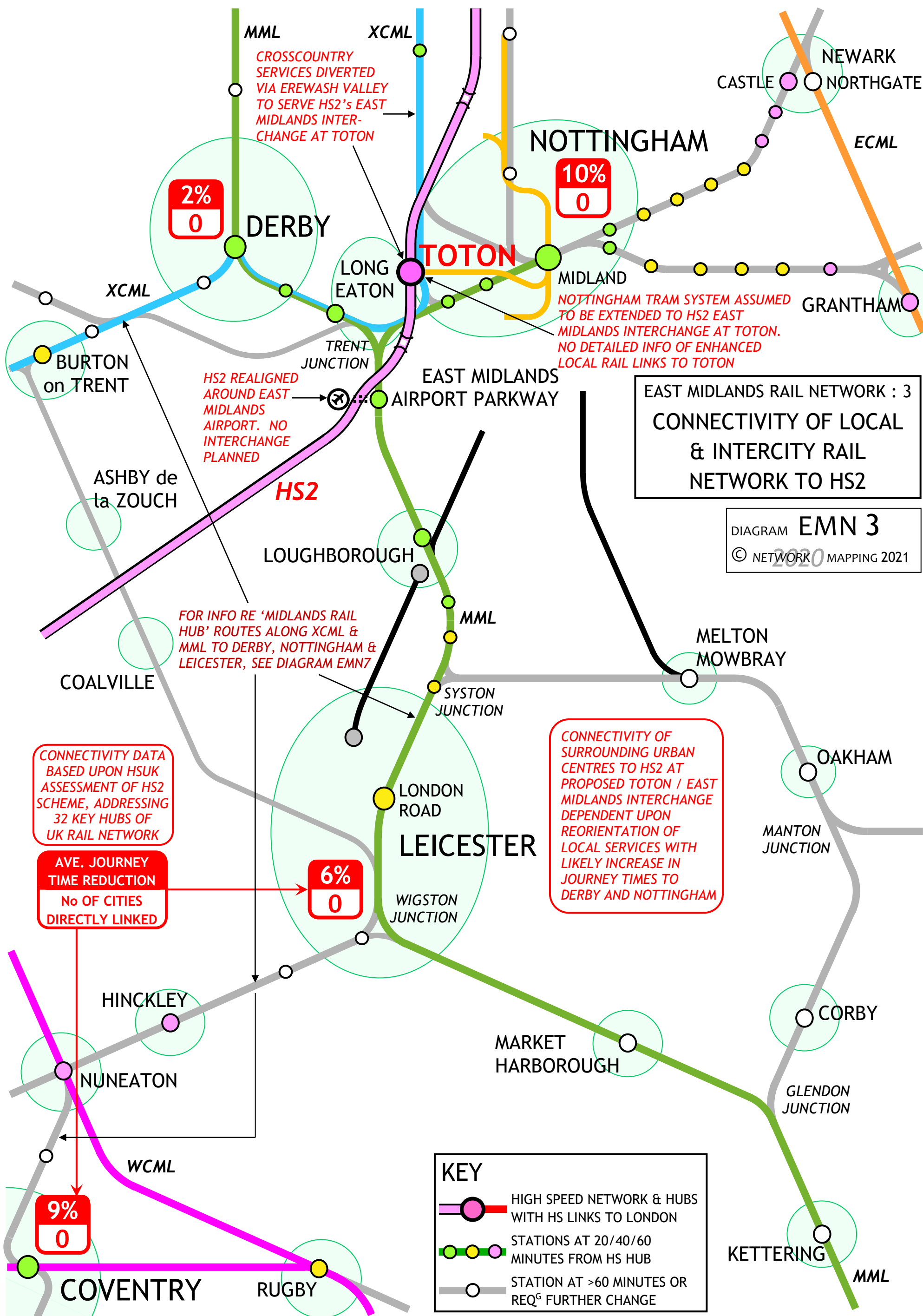
NORTH STAFFORDSHIRE

PRINCIPAL/SECONDARY

TERTIARY/ LOCAL STATION

NO INTERCHANGE BETWEEN MIDLAND & GREAT CENTRAL AT EITHER NOTTINGHAM OR LOUGHBOROUGH, DESPITE GREAT CENTRAL PASSING OVER BOTH MIDLAND STATIONS





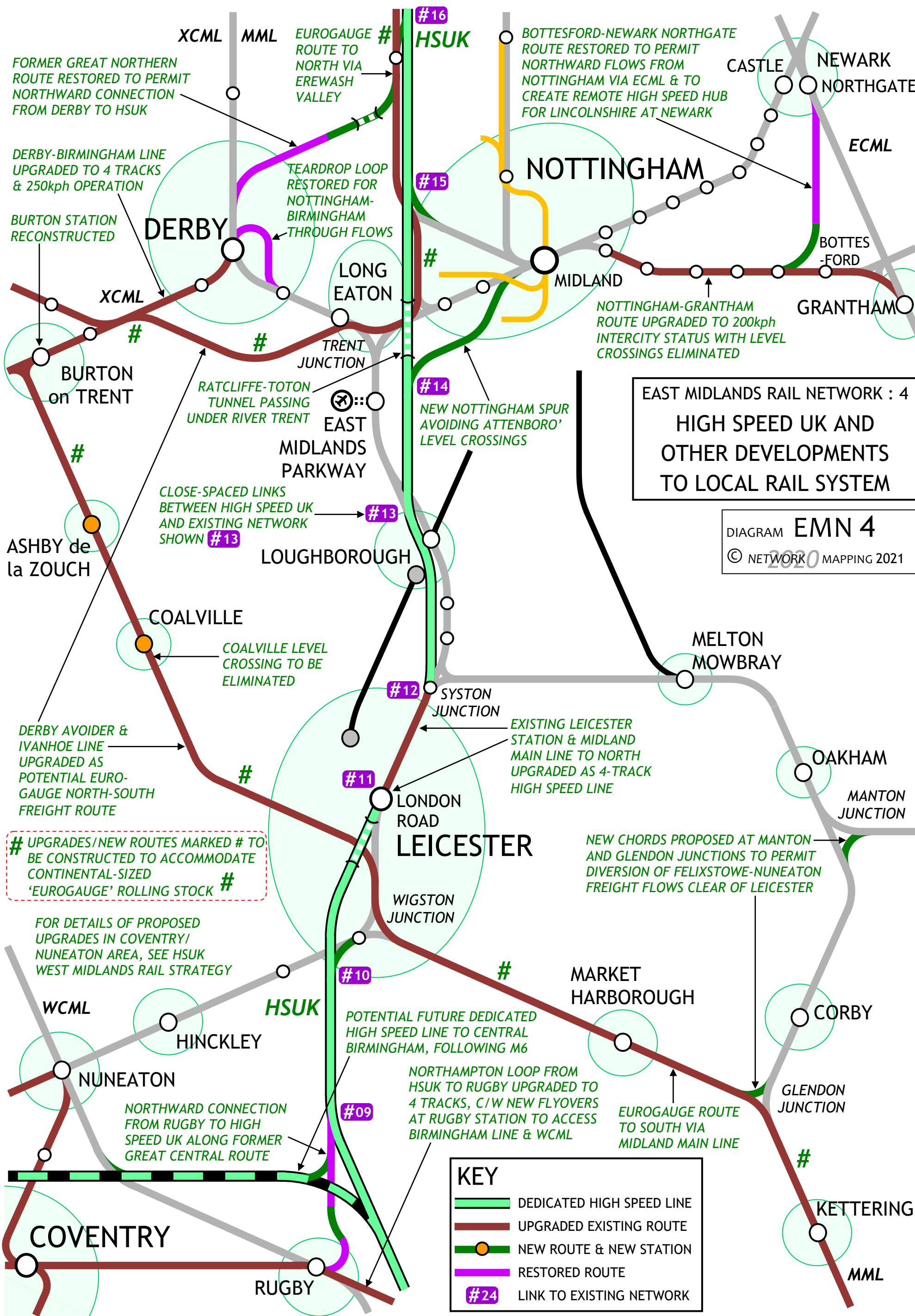
EAST MIDLANDS RAIL NETWORK : 3
CONNECTIVITY OF LOCAL
& INTERCITY RAIL
NETWORK TO HS2

DIAGRAM **EMN 3**
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CONNECTIVITY OF
SURROUNDING URBAN
CENTRES TO HS2 AT
PROPOSED TOTON / EAST
MIDLANDS INTERCHANGE
DEPENDENT UPON
REORIENTATION OF
LOCAL SERVICES WITH
LIKELY INCREASE IN
JOURNEY TIMES TO
DERBY AND NOTTINGHAM

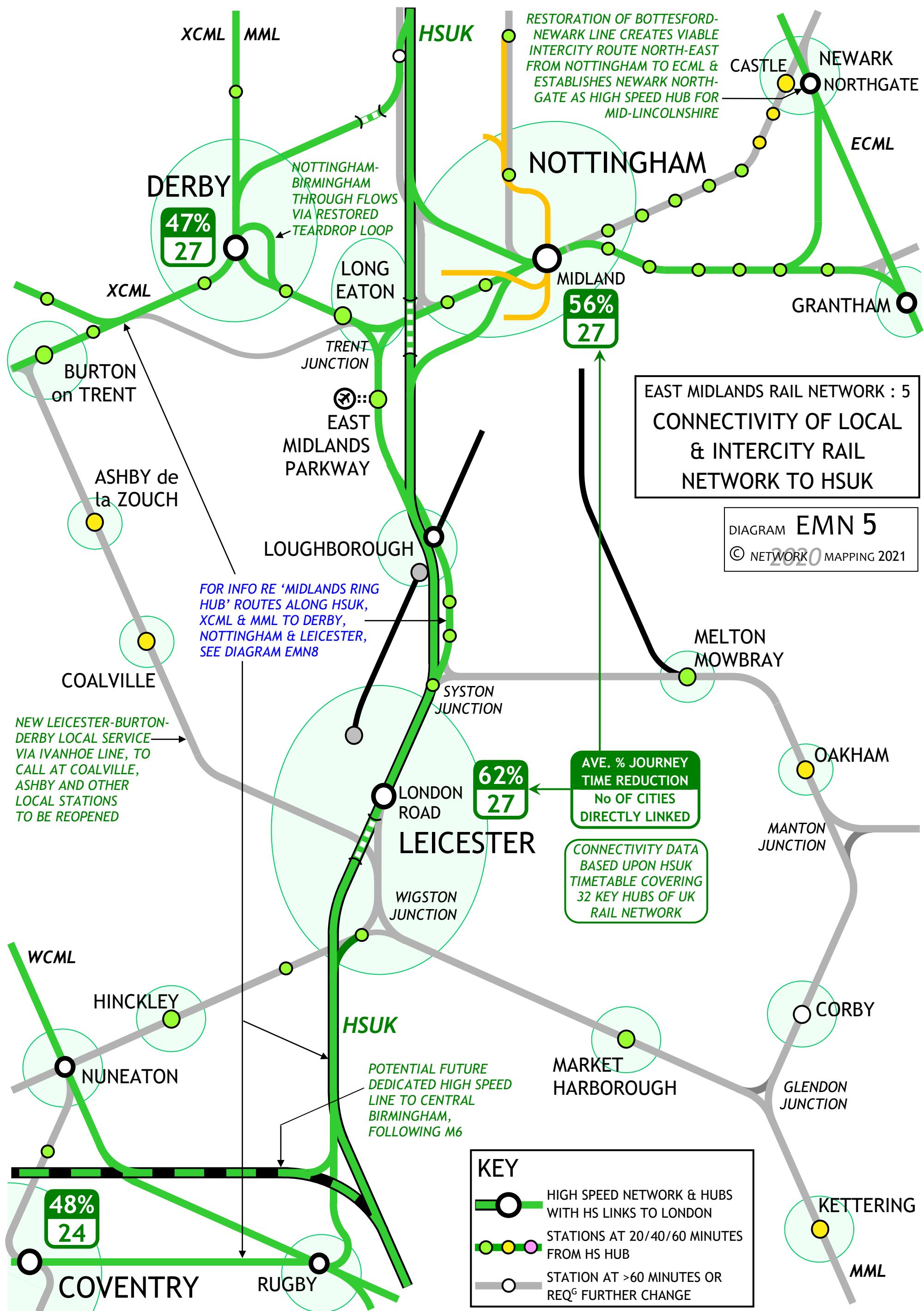
KEY

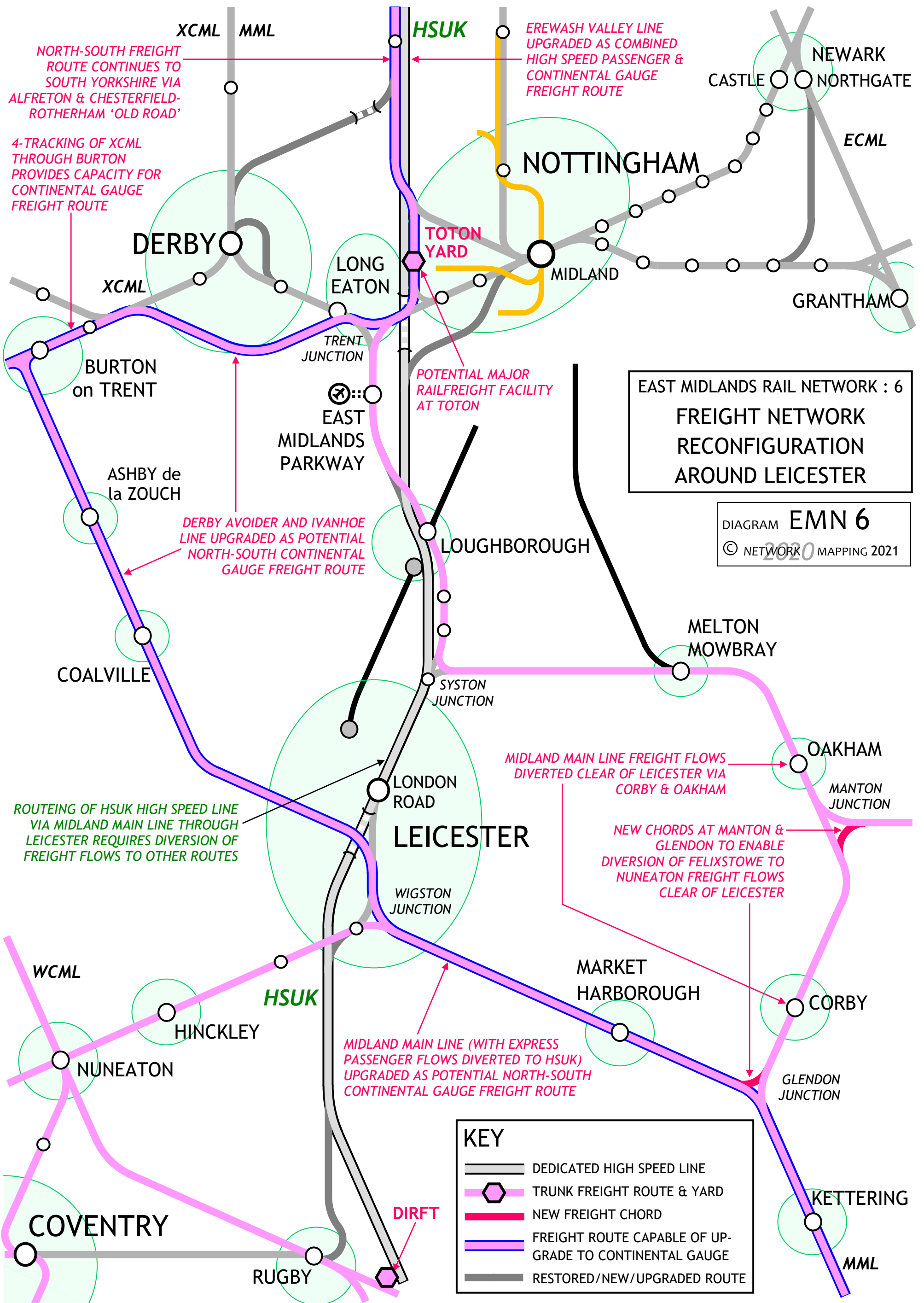
- HIGH SPEED NETWORK & HUBS WITH HS LINKS TO LONDON
- STATIONS AT 20/40/60 MINUTES FROM HS HUB
- STATION AT >60 MINUTES OR REQ^d FURTHER CHANGE

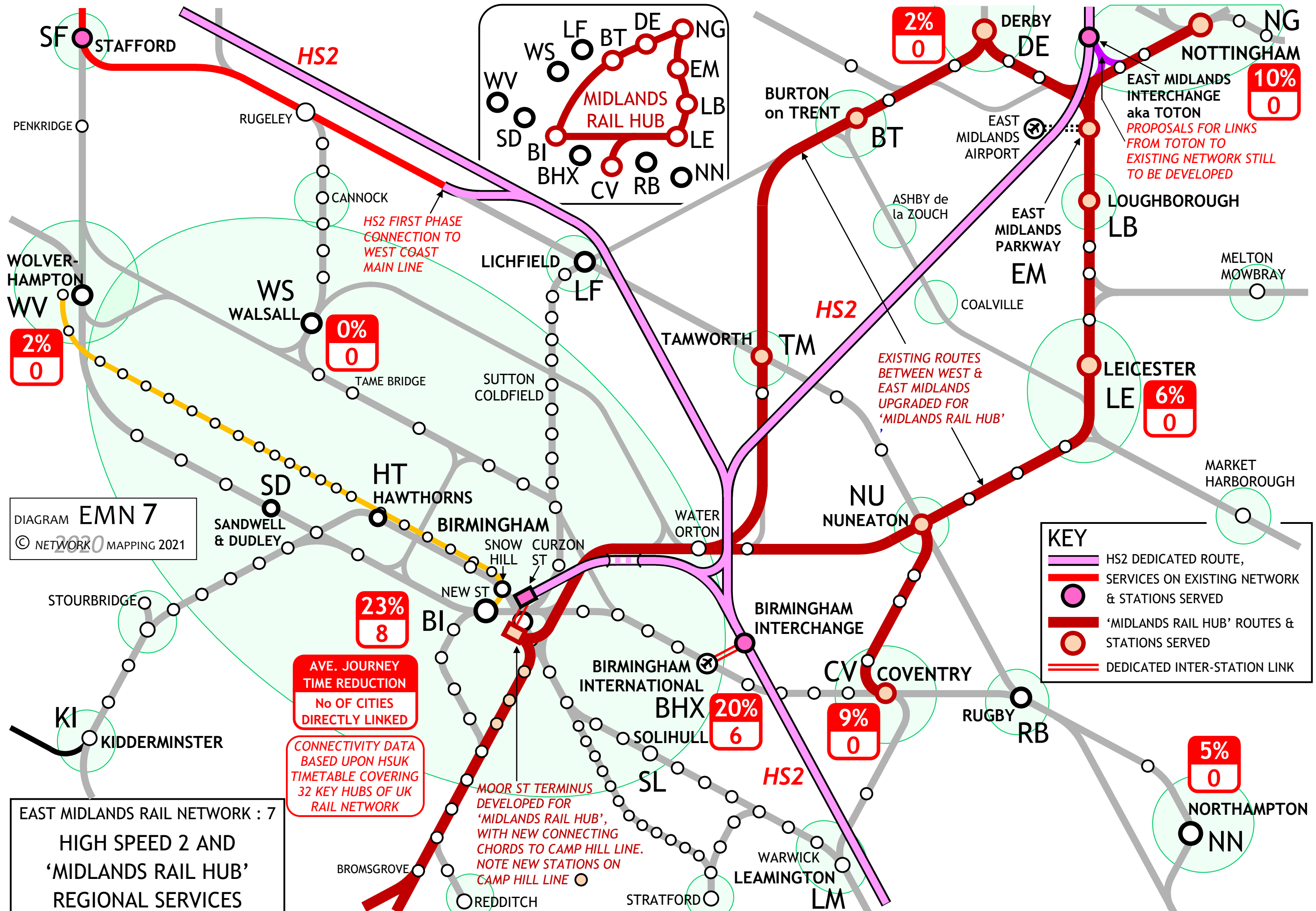


EAST MIDLANDS RAIL NETWORK : 4
HIGH SPEED UK AND
OTHER DEVELOPMENTS
TO LOCAL RAIL SYSTEM

DIAGRAM EMN 4
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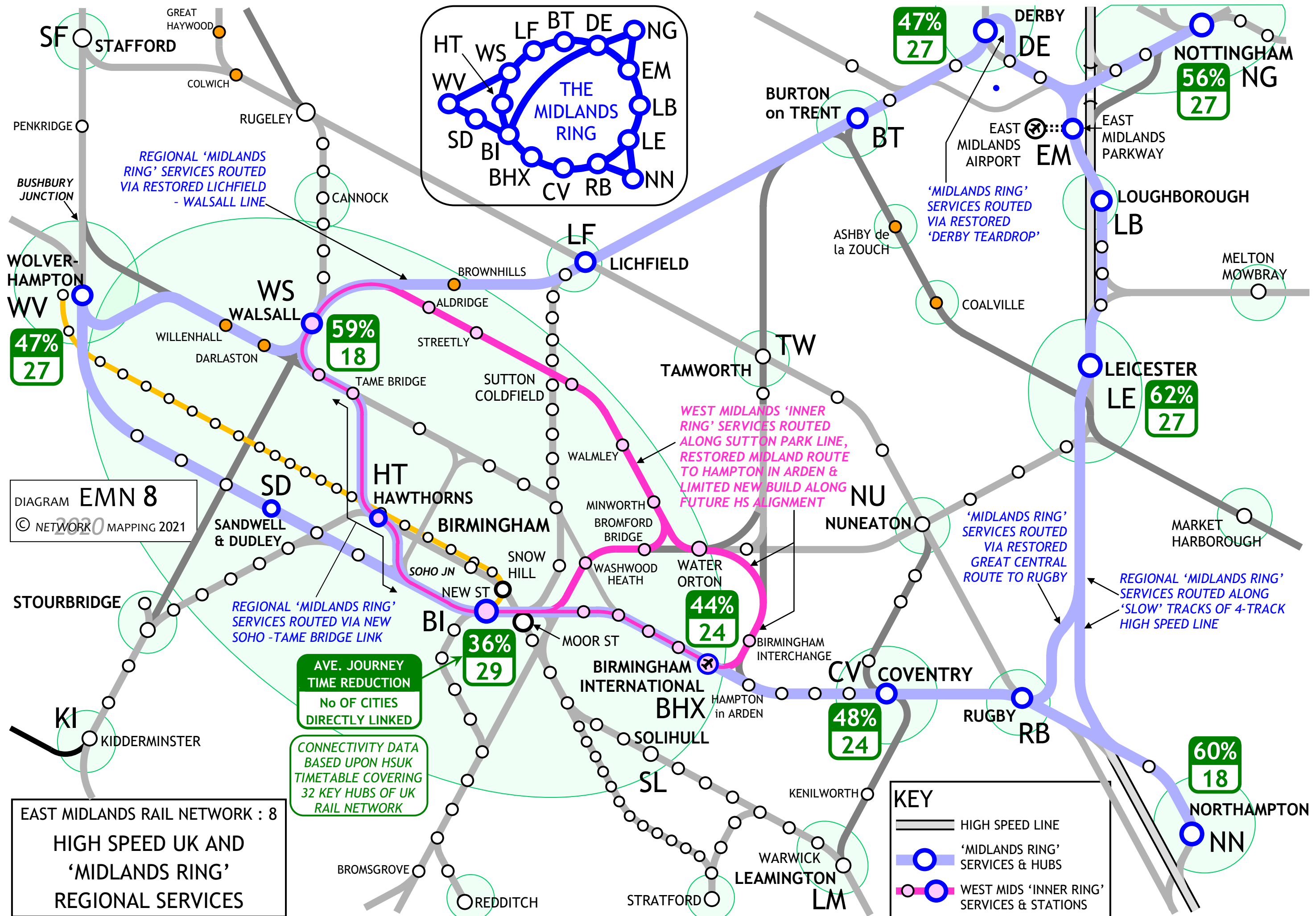


DIAGRAM **EMN 9**
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| Stafford | SF |
|-------------------|--------|
| Walsall | WB WS |
| Wolverhampton | WB WV |
| Sandwell&Dudley | BH SD |
| Hawthorns | GB HT |
| Birmingham | BI BH |
| International | BHX |
| Coventry | CV |
| Rugby | RB |
| Northampton | NB NN |
| Leicester | LNU LE |
| Loughborough | LB |
| East Mids Airport | EM |
| Nottingham | NG |
| Derby | DE |
| Burton on Trent | BT |
| Lichfield | LF |
| Tamworth | TM |
| Nuneaton | NU |
| Leamington | LM |
| Solihull | SL |
| Kidderminster | KI |

Direct train linking community pair

Connection for community pair link

Connection via Birmingham New St

Walking connection via Birmingham

2 changes of trains required

| | | |
|--------------------------------------|-----|-----|
| 148 | x5 | 740 |
| 64 | x3 | 192 |
| 10 | x2 | 20 |
| 9 | x1 | 9 |
| 0 | x0 | 0 |
| Total connections/connectivity score | 231 | 961 |

Number of connections →

Weighting factor →

Weighted connectivity score →

 $\text{Connectivity index} = \frac{961}{231} = 4.2$

HSUK ENHANCEMENTS TO MIDLANDS CONNECTIVITY
(refer to Plans EMN5 & EMN8)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------|----|----|----|----|----|----|-----|-----|----|----|----|----|----|----|----|----|----|--------------------------------------|---|------------------------------|-------------------------------------|----|-----|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Stafford | SF | | | | | | | | | | | | | | | | | | | | Direct train linking community pair | 87 | x5 | 435 | | | | | | | | | | | | | | |
| Walsall | RY | WS | | | | | | | | | | | | | | | | | | GB | Connection for community pair link | 58 | x3 | 174 | | | | | | | | | | | | | | |
| Wolverhampton | | BI | WV | | | | | | | | | | | | | | | | | BI | Connection via B'ham New St/Moor St | 59 | x2 | 118 | | | | | | | | | | | | | | |
| Sandwell&Dudley | | BI | | SD | | | | | | | | | | | | | | | | BI | Walking link between B'ham stations | 27 | x1 | 27 | | | | | | | | | | | | | | |
| Hawthorns | BI | BI | GB | GB | HT | | | | | | | | | | | | | | | 2 changes of trains required | 0 | x0 | 0 | | | | | | | | | | | | | | | |
| Birmingham | | | | | | BI | | | | | | | | | | | | Total connections/connectivity score | | | 231 | | 754 | | | | | | | | | | | | | | | |
| International | | BI | | | | BI | | BHX | | | | | | | | | | | <div>Number of connections</div> <div>Weighting factor</div> <div>Weighted connectivity score</div> | | | | | | | | | | | | | | | | | | | |
| Coventry | | BI | | | | BI | | | CV | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rugby | | BI | CV | CV | BI | | | | | RB | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Northampton | | BI | CV | CV | BI | | | | | | NN | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leicester | NU | BI | BI | BI | BI | | | CV | | NU | NU | LE | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Loughborough | BI | BI | BI | BI | BI | | | CV | | NU | NU | | LB | | | | | | | | | | | | | | | | | | | | | | | | | |
| East Mids Airport | BI | BI | BI | BI | BI | | | CV | | NU | NU | | | EM | | | | | | | | | | | Connectivity index = $\frac{754}{231}=3.3$ | | | | | | | | | | | | | |
| Nottingham | TM | BI | BI | BI | BI | | | BI | BI | TM | TM | | | | NG | | | | | | | | | | | | | | | | | | | | | | | |
| Derby | TM | BI | BI | BI | BI | | | BI | BI | TM | TM | | | | | DE | | | | | | | | | | | | | | | | | | | | | | |
| Burton on Trent | TM | BI | BI | BI | BI | | | BI | BI | TM | TM | DE | DE | DE | | | BT | | | | | | | | | | | | | | | | | | | | | |
| Lichfield | | AS | BI | BI | BI | | | BI | NU | | | NU | NU | NU | TM | TM | TM | LF | | | | | | | | | | | | | | | | | | | | |
| Tamworth | | BI | BI | BI | BI | | | BI | NU | | | NU | DE | DE | | | | | TM | | | | | | | | | | | | | | | | | | | |
| Nuneaton | | BI | BI | BI | BI | | | CV | | | | | | | | LE | TM | | | NU | | | | | | | | | | | | | | | | | | |
| Leamington | | BI | | | | | | | | CV | CV | CV | CV | CV | CV | | BI | BI | | | LM | | | | | | | | | | | | | | | | | |
| Solihull | BI | BI | GB | GB | | | | BI | LM | BI | BI | BI | BI | BI | BI | BI | BI | BI | BI | LM | | SL | | | | | | | | | | | | | | | | |
| Kidderminster | BI | BI | GB | GB | | | | GB | GB | BI | BI | BI | BI | BI | BI | BI | BI | BI | BI | | | KI | | | | | | | | | | | | | | | | |
| | SF | WS | WV | SD | HT | BI | BHX | CV | RB | NN | LE | LB | EM | NG | DE | BT | LF | TM | NU | LM | SL | KI | | | | | | | | | | | | | | | | |

HS2/MIDLANDS RAIL HUB
ENHANCEMENTS TO MIDLANDS
CONNECTIVITY
(refer to Plans EMN3 & EMN7)