

HIGH SPEED UK

..connecting in London

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www.highspeeduk.co.uk

HSUK

HS2+3

HS2 or
HSUK?



High Speed 2 (+3)

- High speed line segregated from existing network
- Poorly sited stations in most primary regional centres
- Other communities left disconnected
- Journey time reductions confined to high speed line
- Integrity of national intercity network destroyed





High Speed UK

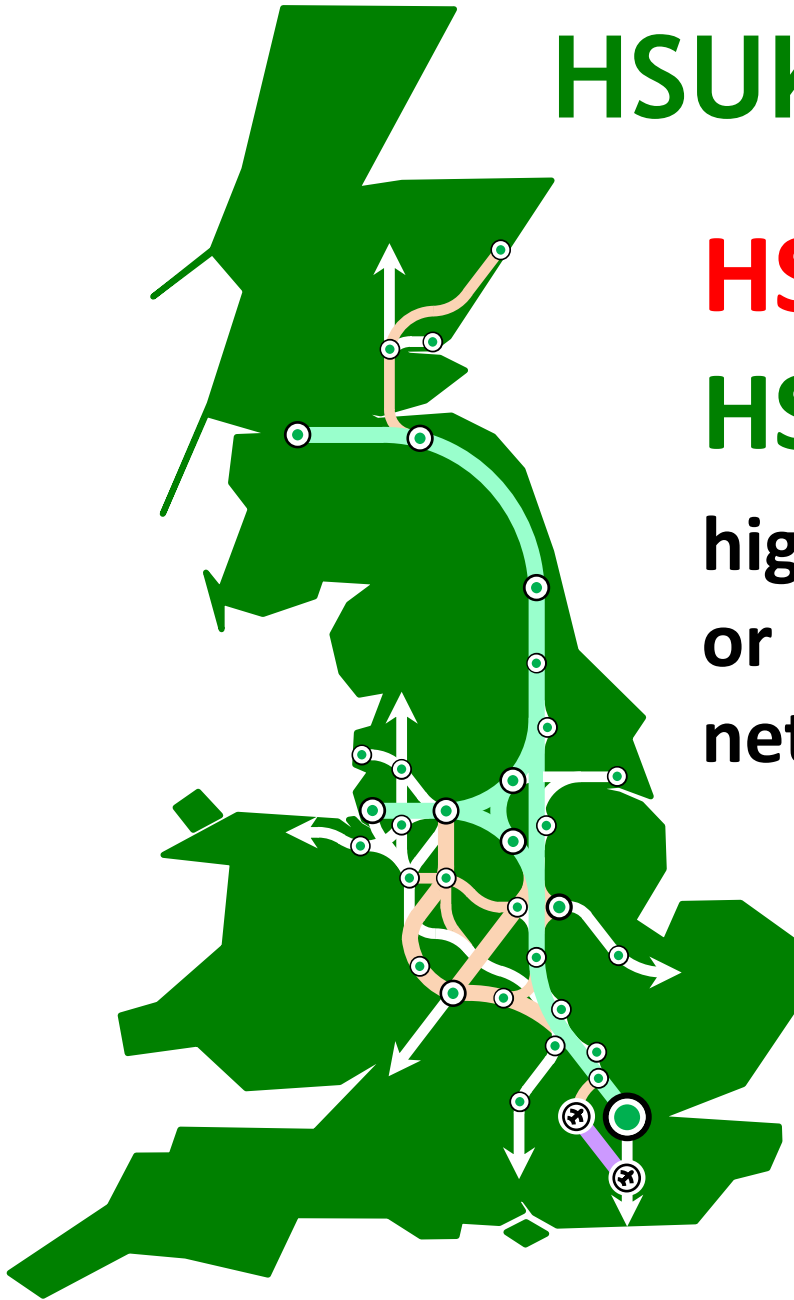
- High speed line integrated fully with existing network
- 21 key regional centres fully interconnected with direct intercity services
- Accesses city centre hubs
- Follows existing corridors
- 40% average journey time reductions
- £20 billion/33% cheaper to build than HS2

HSUK

HS2+3

HS2 or
HSUK? –

high speed line
or high speed
network?



High Speed Rail in London

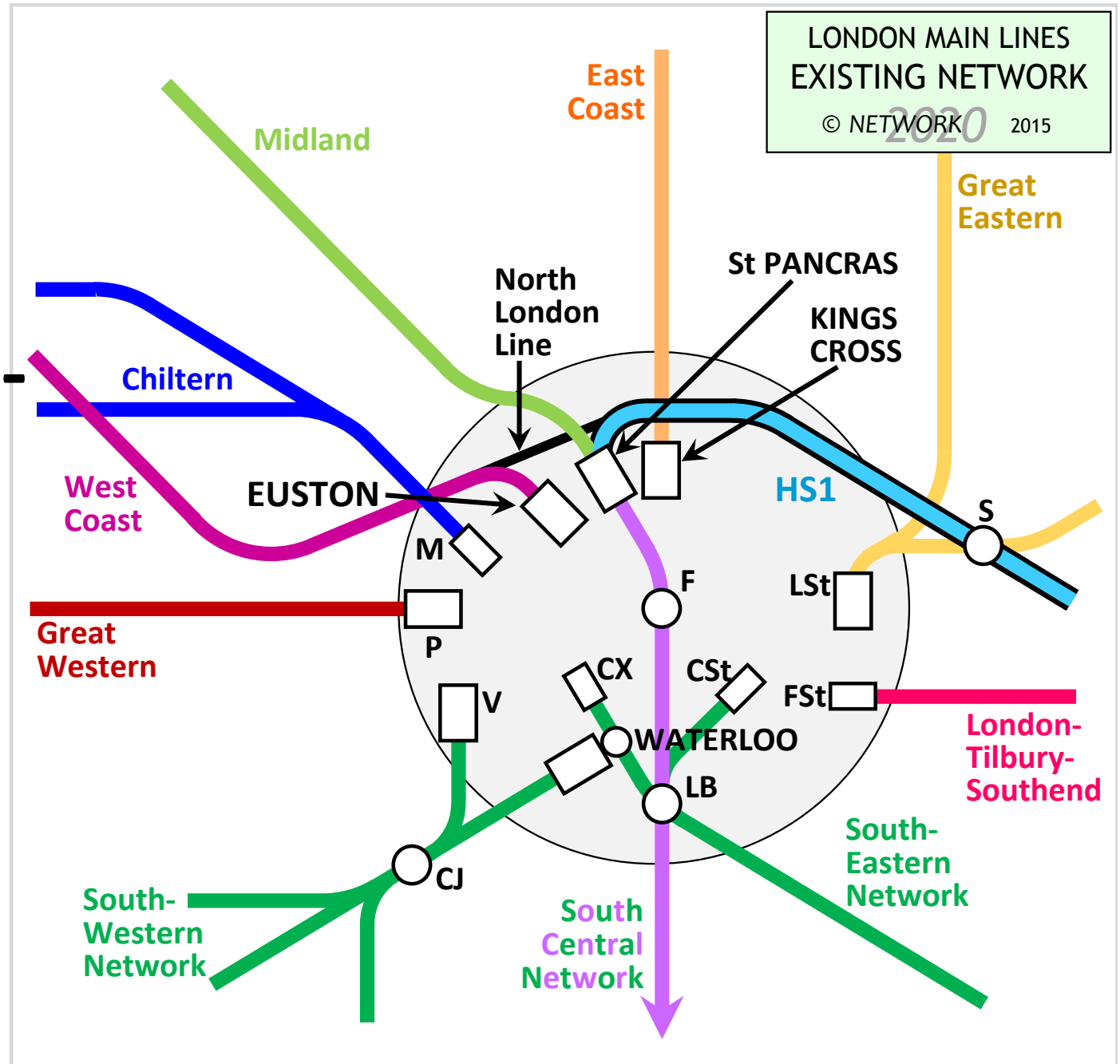
4 Key Objectives

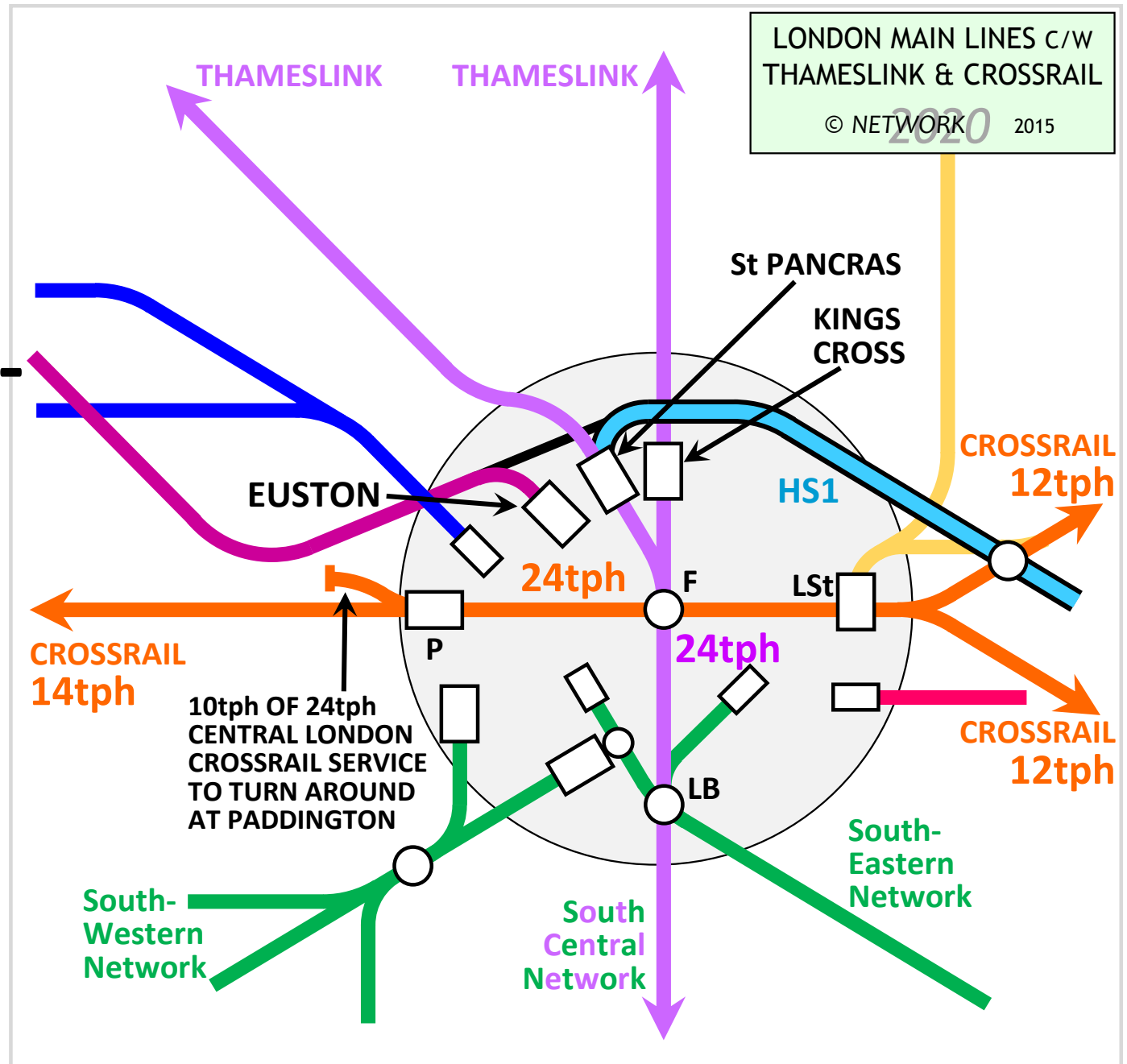
- Regions linked to central London
- Regions linked to the wider Metropolitan area
- Regions linked to Heathrow
- Regions linked to HS1

2 Key Questions

- Where do we put the principal station?
- What extra lines are needed to facilitate this?

London existing primary network





Primary Requirements for London's HSR Terminal



- Central London location for Tube & HS1 links
- Central London location for links to London & SE regional network
- Preferably on the surface (probably a terminus)
- Minimum impact on the neighbourhood both:
 - During construction works and
 - In daily operation

Only practical location at existing mainline station.

Problem - they are already full of trains!

HS2 : Search for a Terminus



HS2 looked for a
Principal Station at:

- Willesden Junction
- Old Oak Common
- Paddington
- St Pancras
- Kings Cross
- KX Railway Lands

HS2 : Search for a Terminus



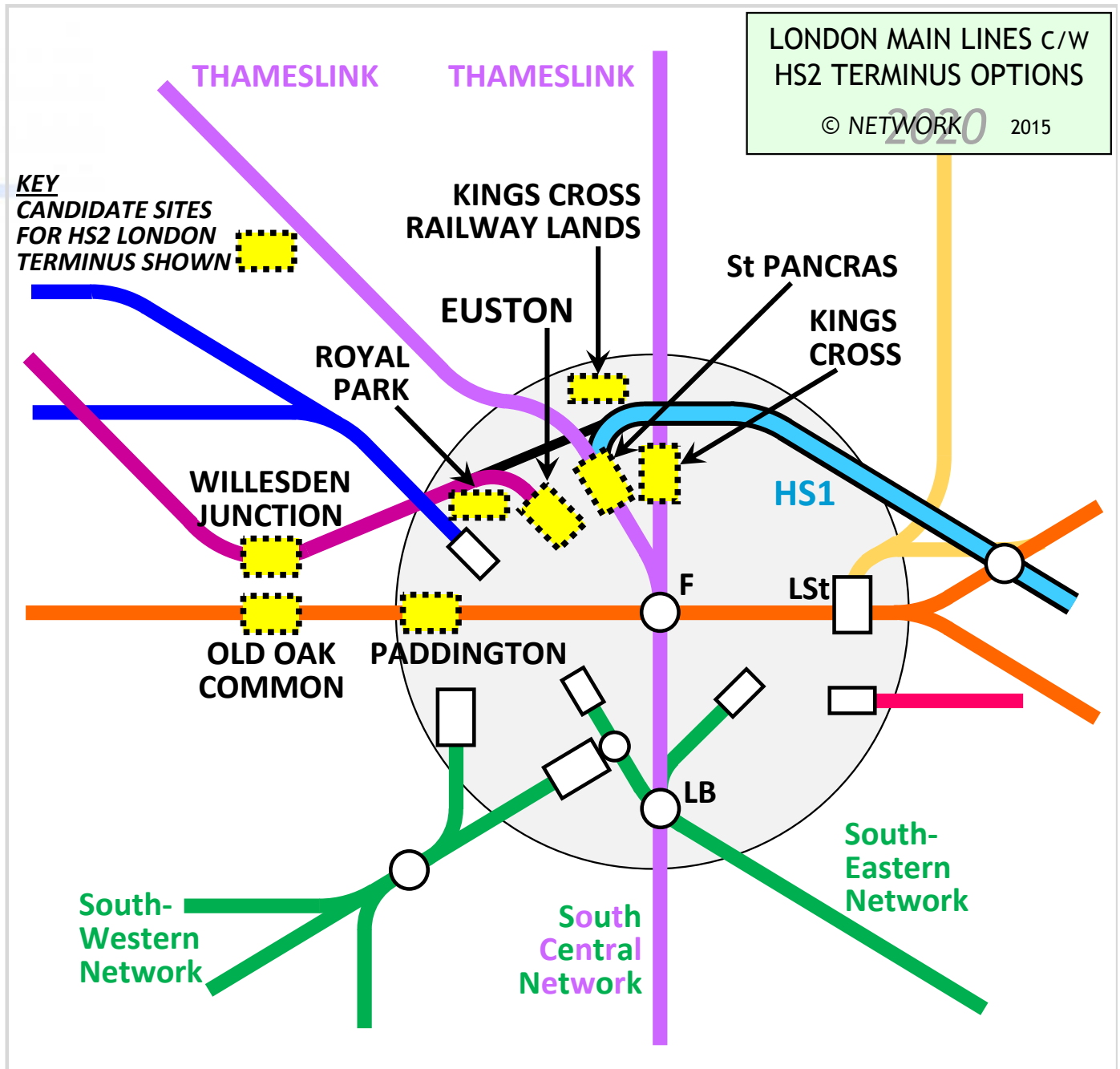
HS2 looked for a
Principal Station at:

- Willesden Junction
- Old Oak Common
- Paddington
- St Pancras
- Kings Cross
- KX Railway Lands
- Beneath Regents Park

- And at **Euston** which
 - Meets most criteria but:
 - Its Tube links are mediocre, and
 - It is not connected to Crossrail or Thameslink



HS2 - searching for a London terminal



Original HS2 Proposals

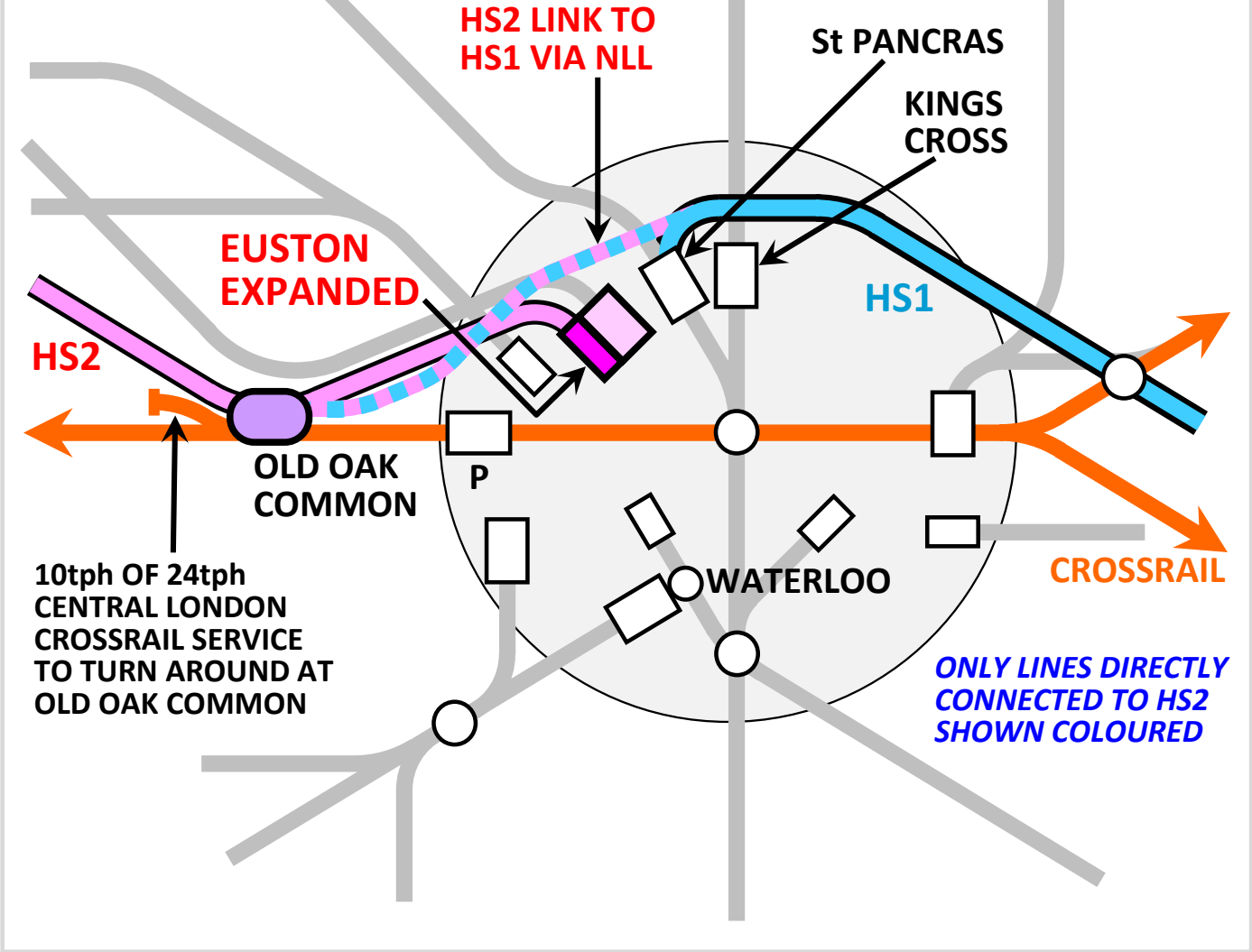


- Terminus at Euston
- No significant improvement to Tube links other than to Euston Square for Circle and Metropolitan
- Supplementary interchange at Old Oak Common for connections to Heathrow and Crossrail
- Large area of London still disconnected
- HS2 to HS1 link very controversial because of significant environmental damage and high cost



**HS2 -
original
London
proposals**

LONDON MAIN LINES C/W
ORIGINAL HS2 PROPOSALS
© NETWORK 2020 2015



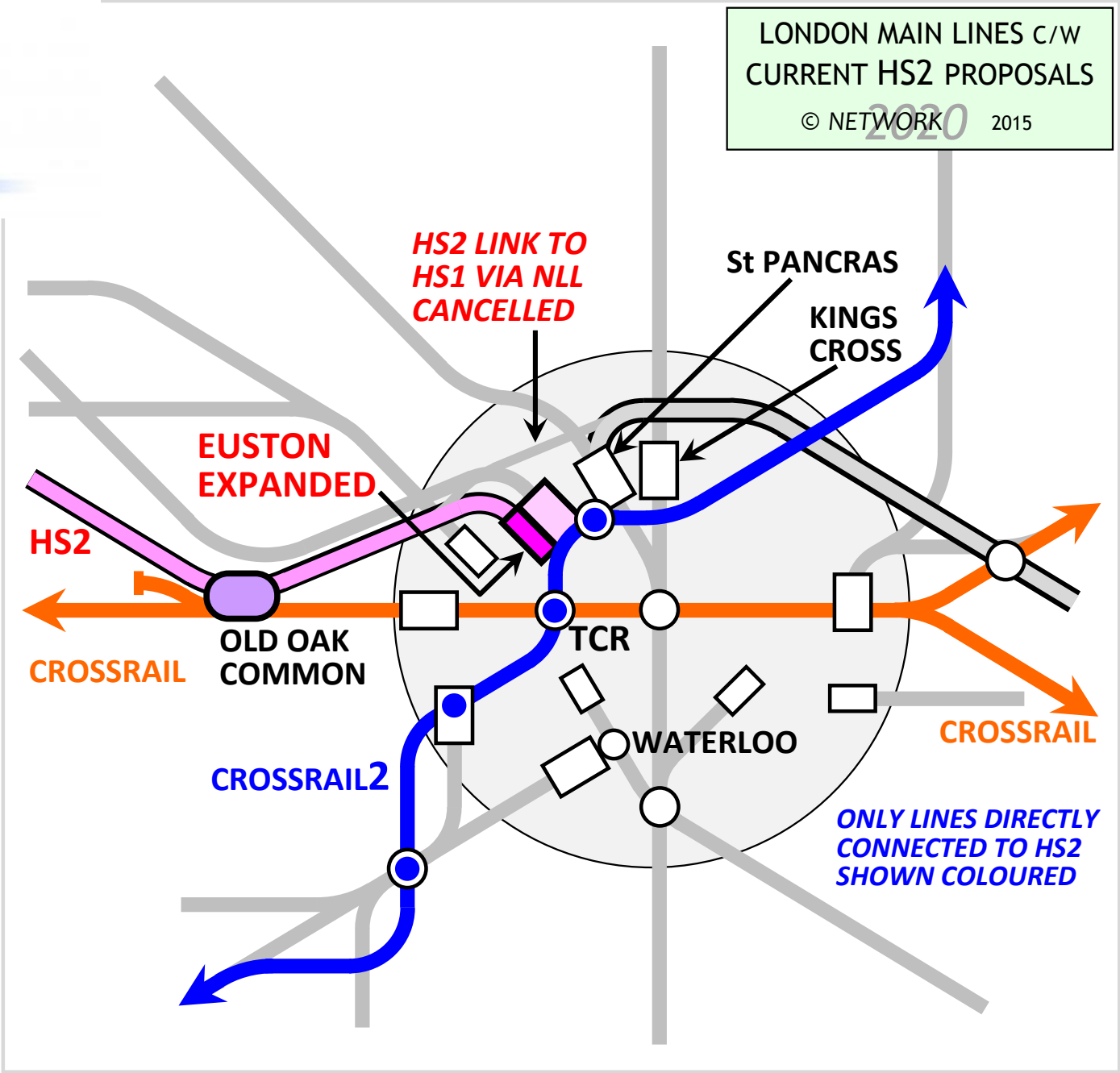
Current HS2 Proposals



- HS2 to HS1 link cancelled
- Transfer to/from St Pancras by taxi, tube, bus or foot
- Crossrail 2 – necessary to improve Euston's tube links (*and adding another £16 billion to the bill for HS2*)
- Large area of London still disconnected
- Still requires a 60 metre widening of Euston station to the west



**HS2 -
current
London
proposals
plus
Crossrail2**



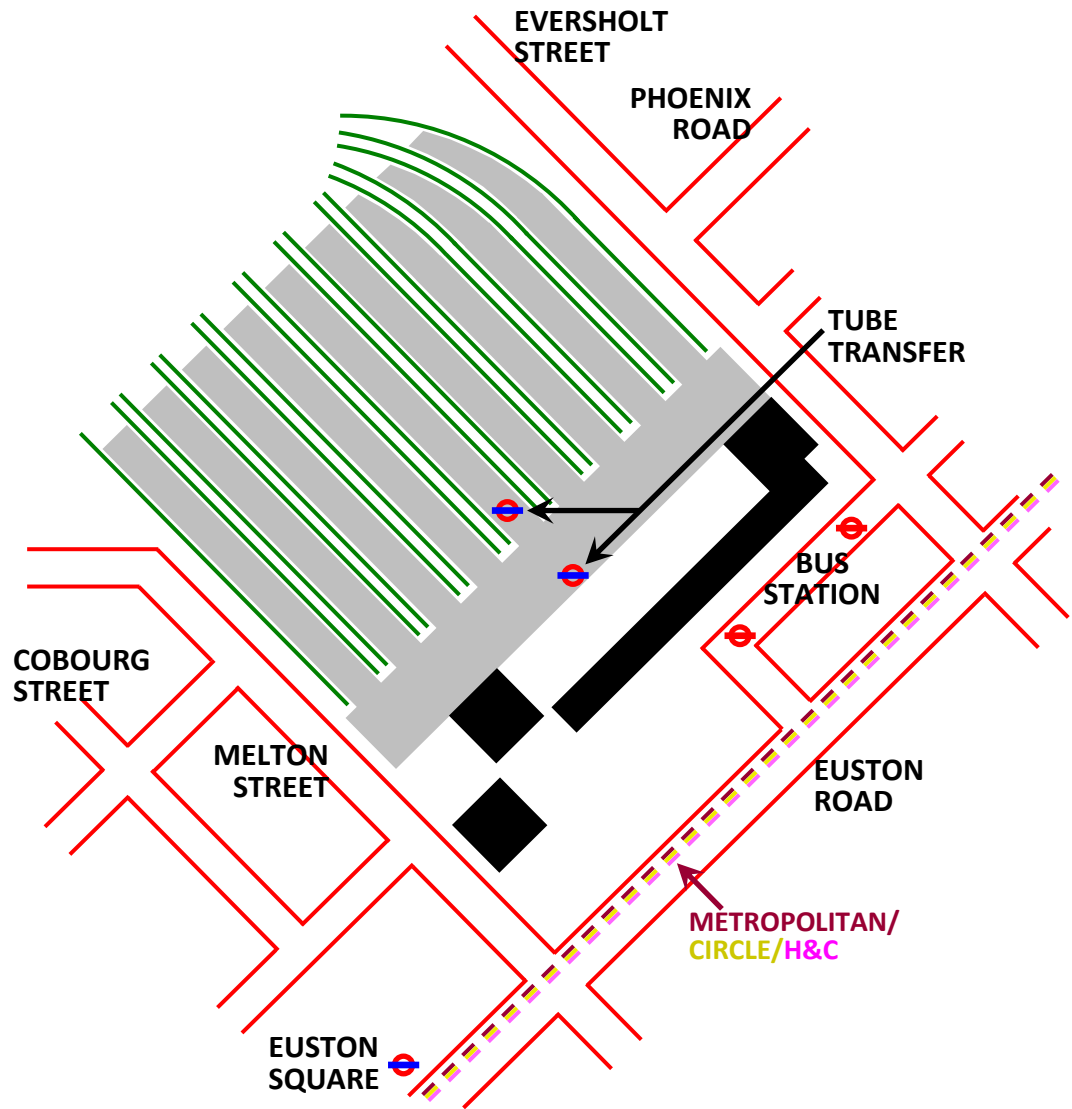
Current Services at Euston



- 18 Existing platforms
 - 2 used by Watford DC electrics
- Hourly off peak services – 19 trains per hour
 - 9 Virgin, 7 London Midland, 3 Watford DCs
 - That is just over 1 train per platform per hour!
- Hourly peak services – 25 trains per hour
 - 10 Virgin, 12 London Midland, 3 Watford DCs
 - That is 1.4 trains per platform per hour
- As a rule of thumb a single platform can turnaround:
 - 2 trains per hour with full catering facilities
 - 3 trains per hour with catering trollies
 - 4 trains per hour with no catering trollies
- Euston is hardly ticking over



Euston - existing arrangement



**EUSTON STATION :
EXISTING ARRANGEMENT**

HS2 Proposals for Euston

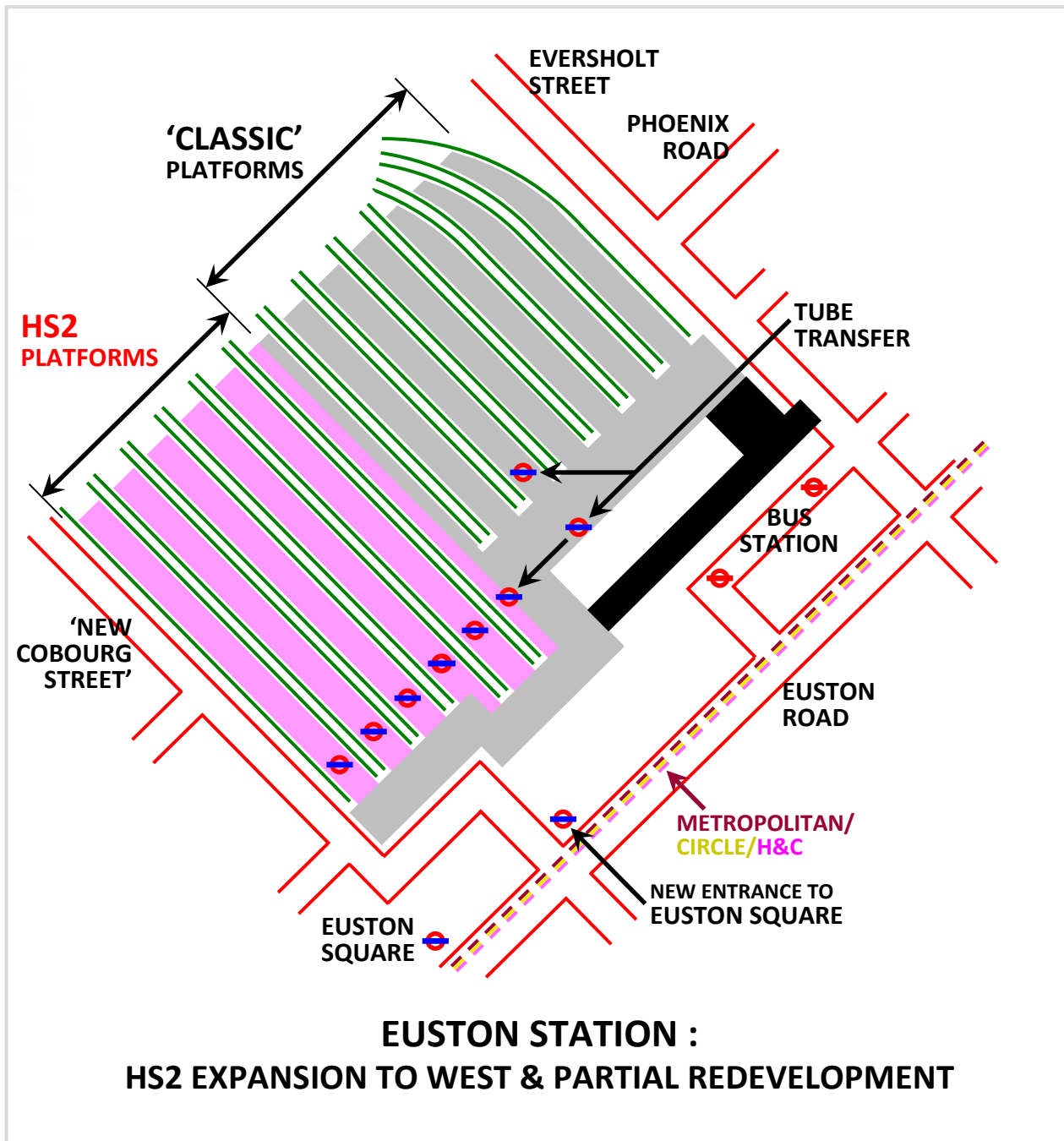


Either partial or full reconstruction:

- Run existing services (24 tph in peak) from 13 platforms
 - *That is 1.85 trains per platform per hour*
- Build a new High Speed station with 11 platforms to serve 18 trains per hour
 - *That is 1.64 trains per platform per hour*
- Remember the rule of thumb for a single platform:
 - 2 trains per hour with full catering facilities
 - 3 trains per hour with catering trollies
 - 4 trains per hour with no catering trollies
- Euston is still hardly ticking over

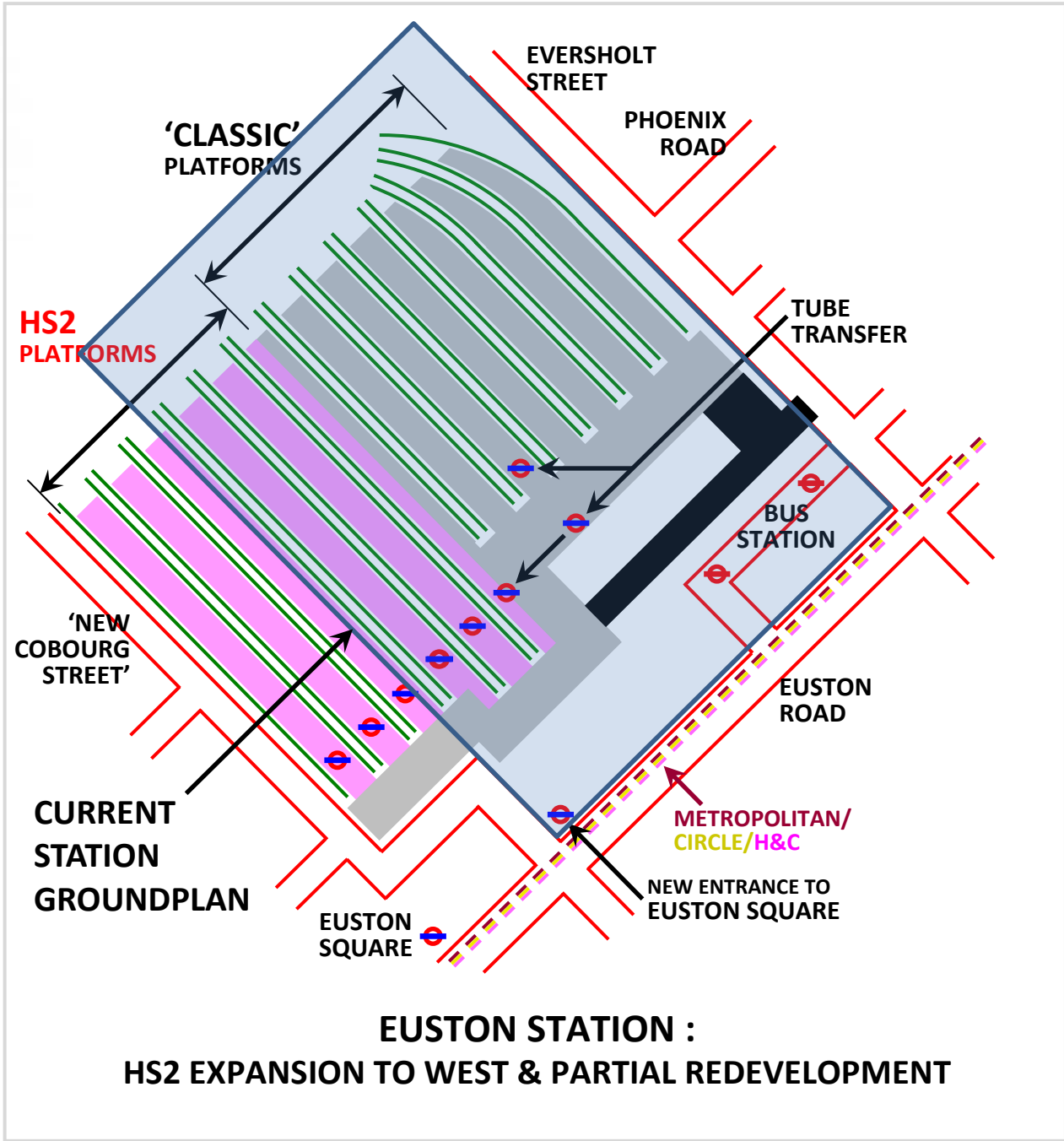


Euston - the cheapskate option



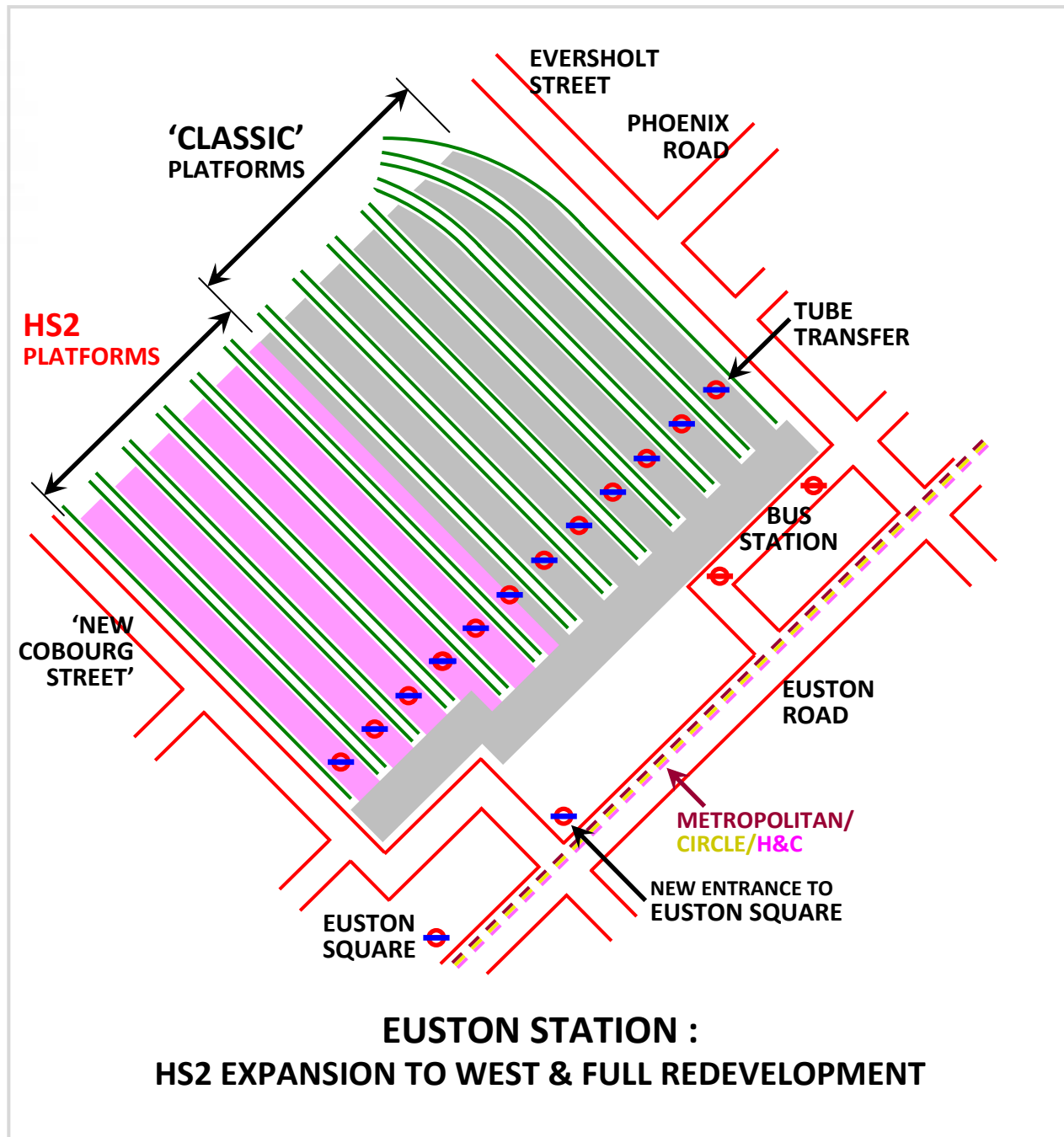


Euston –
the
cheapskate
option



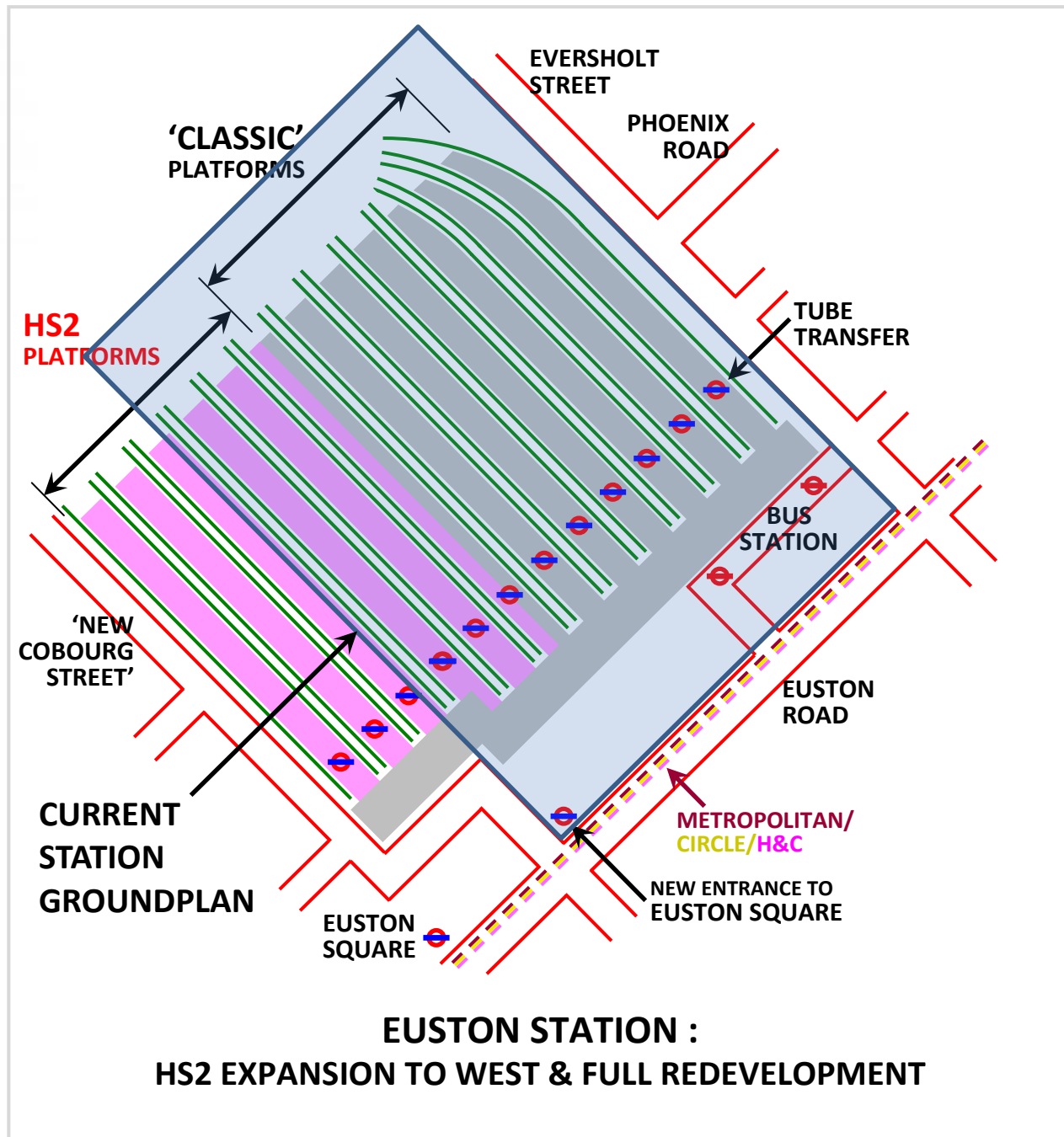


Euston – full rebuild





Euston – full rebuild



Alternatives to Westward Expansion??



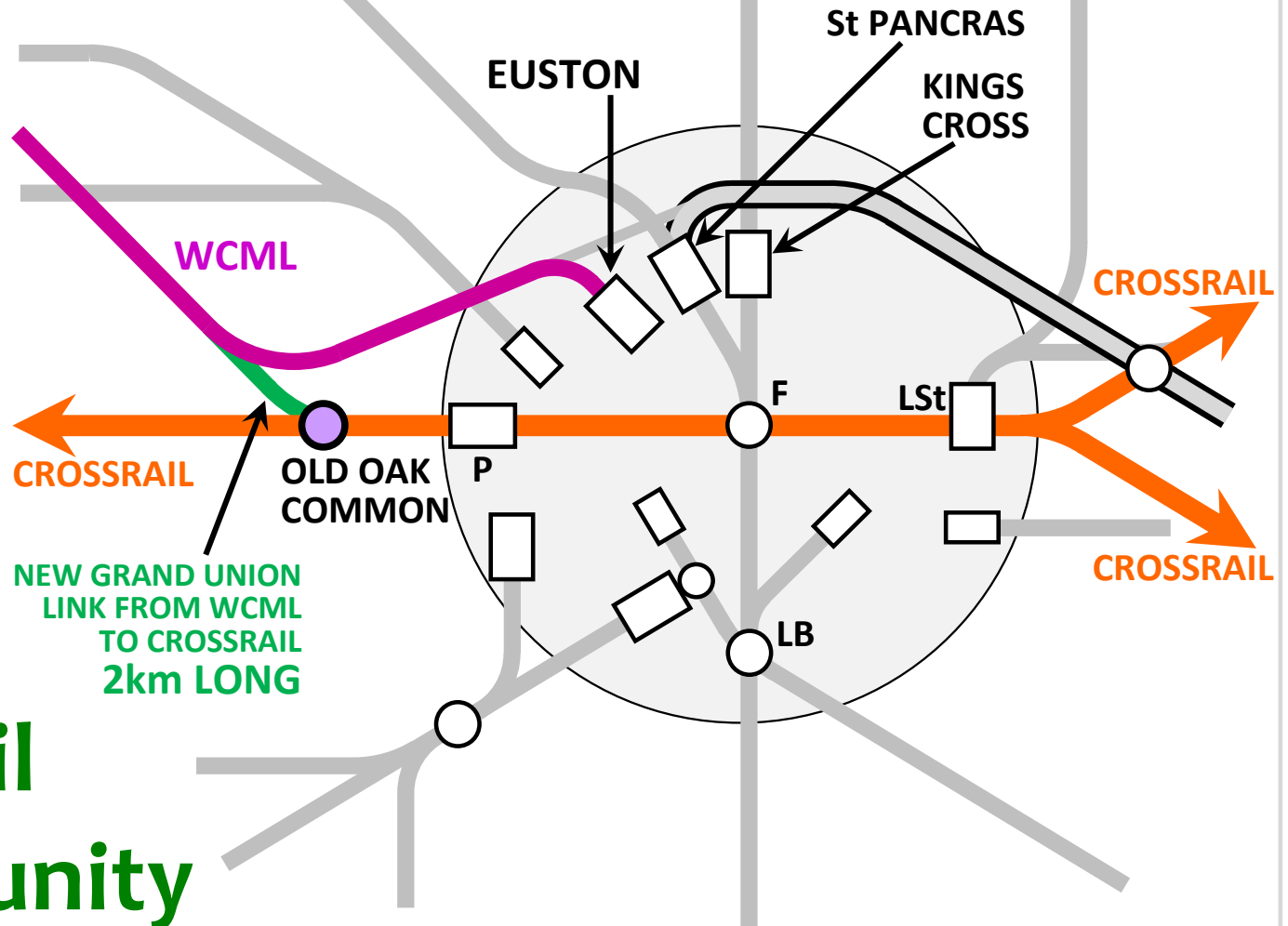
- Double deck by building a second deck on top?
- Double deck by building a second deck underneath?
- Euston Cross underground station?

All of these solutions are far from ideal because they are:

- Very expensive, very disruptive & technically undesirable
- Euston left badly connected and isolated

The alternative is obvious but dismissed by HS2:

- Divert the LM commuter services **Crossrail**
- Euston just handles WCML residual services and HSUK



**Crossrail
Opportunity**

The Crossrail Opportunity

- Grand Union Link – from Old Oak Common to Harlesden on WCML linking to WCML Slows
- 2km in length, on surface - no serious obstacles
- London Midland services diverted to Crossrail
- 10 trains per hour on Crossrail planned to reverse at Old Oak Common, instead can access the WCML
- Great improvement to commuter journeys
- Euston becomes an intercity terminus

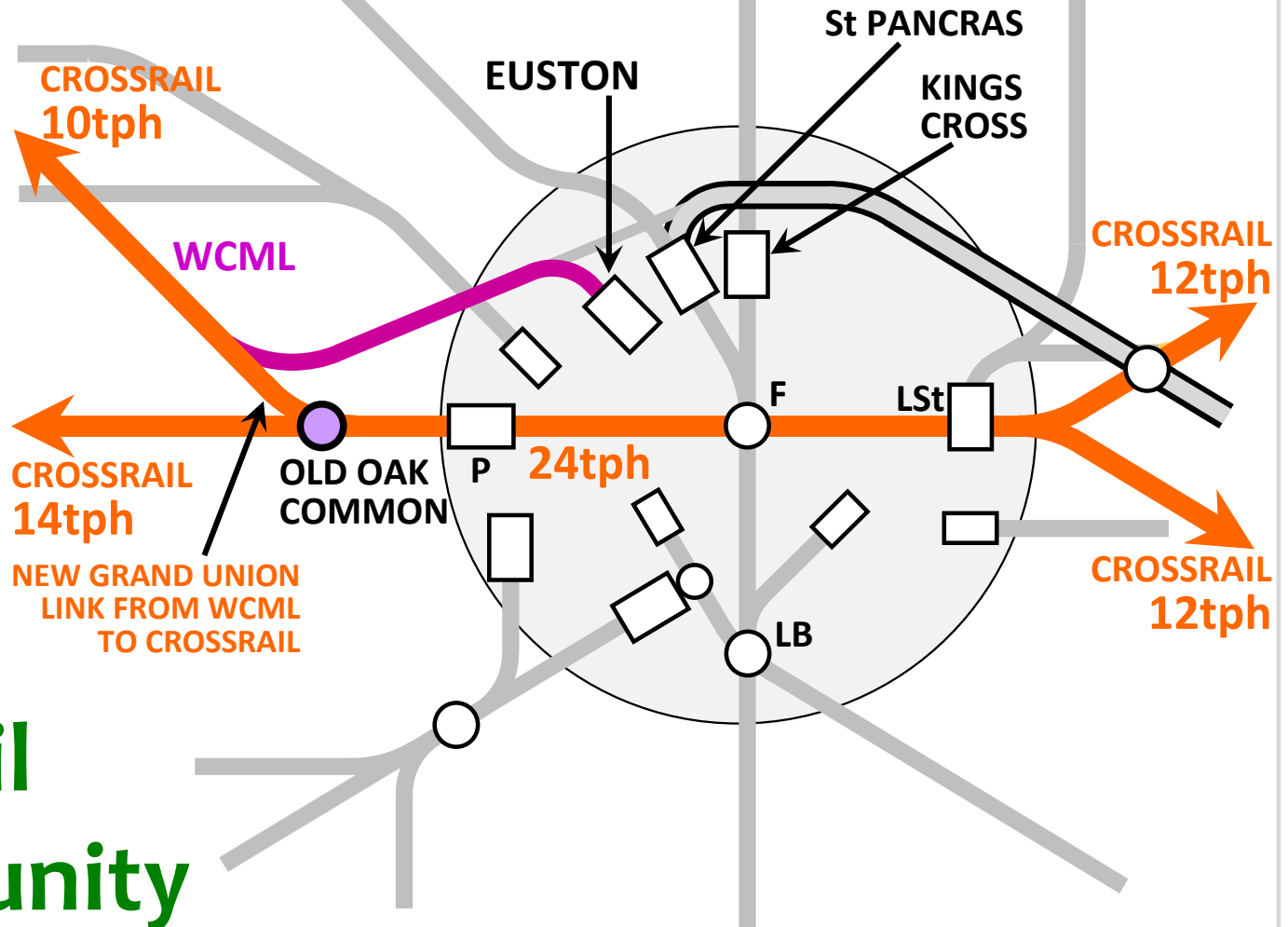


F
No parking
N20
N263

PERTH
PETERBORO
PRESTON
ROCHDALE
SHEFFIELD
SHREWSBURY
STAMFORD
STIRLING
STOCKPORT

STANLEY
TENDON
WALSLEY
WARRINGTON
WHITEHALL





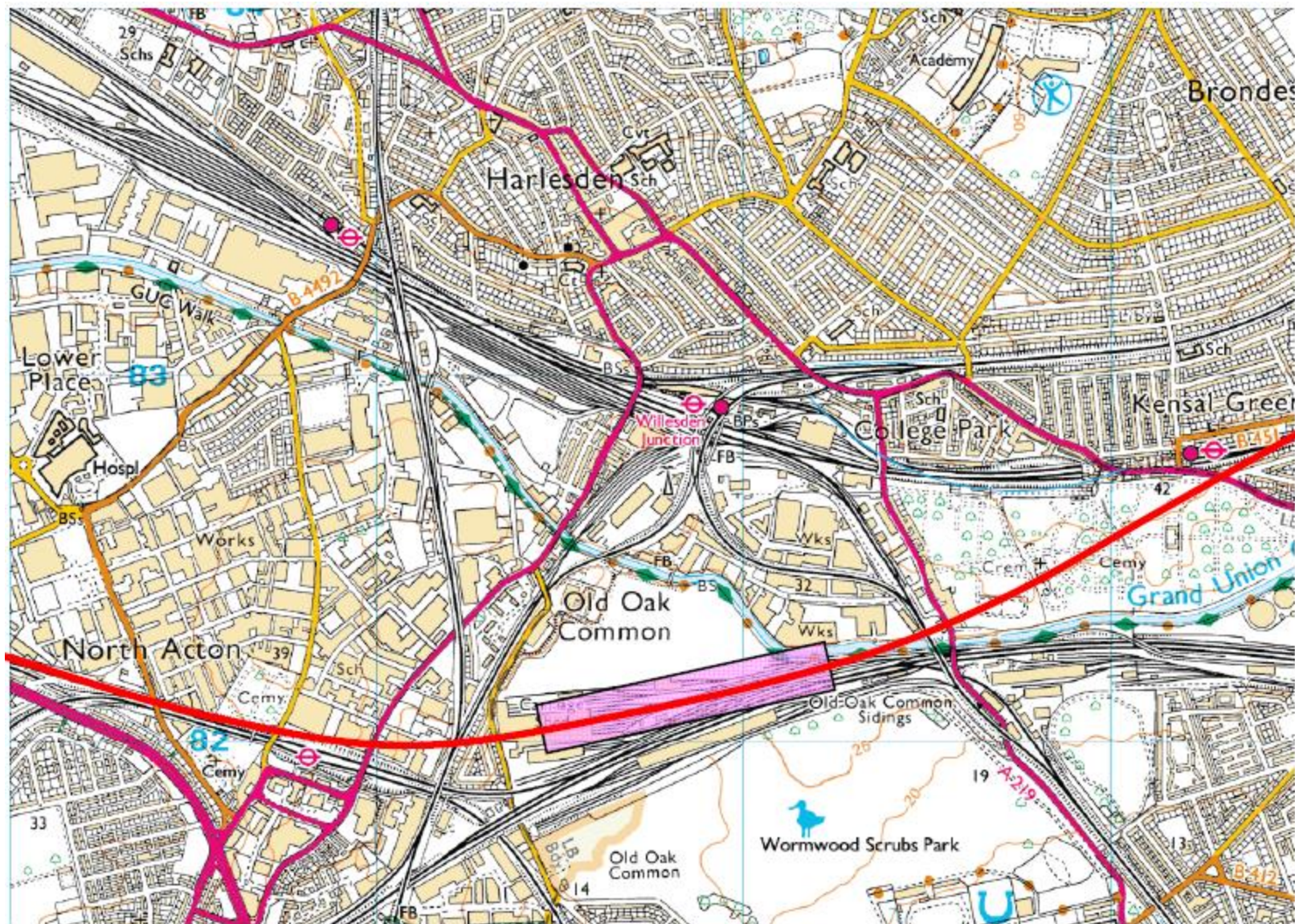
Crossrail Opportunity

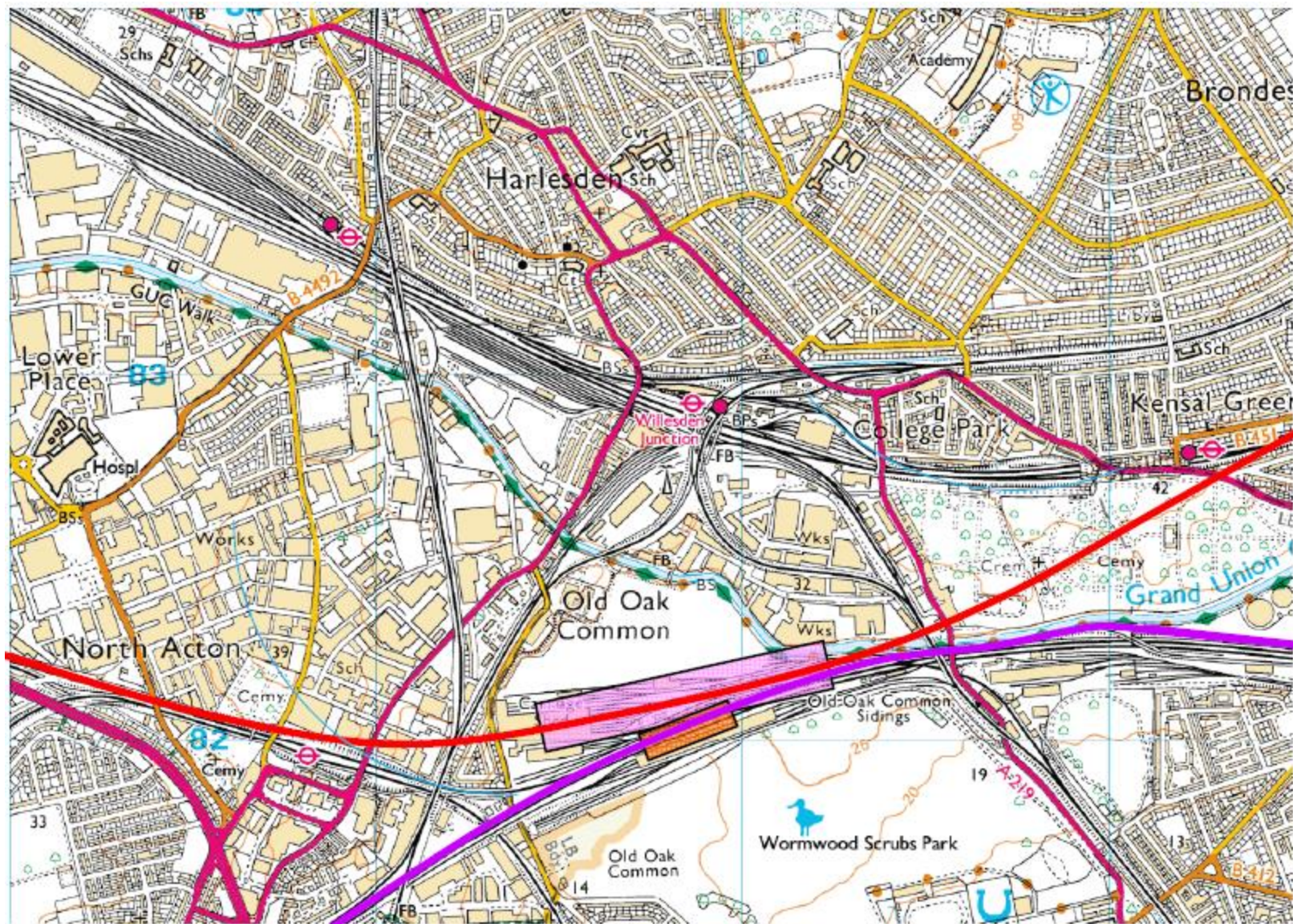
HS2 Ltd false rationale for not diverting to Crossrail

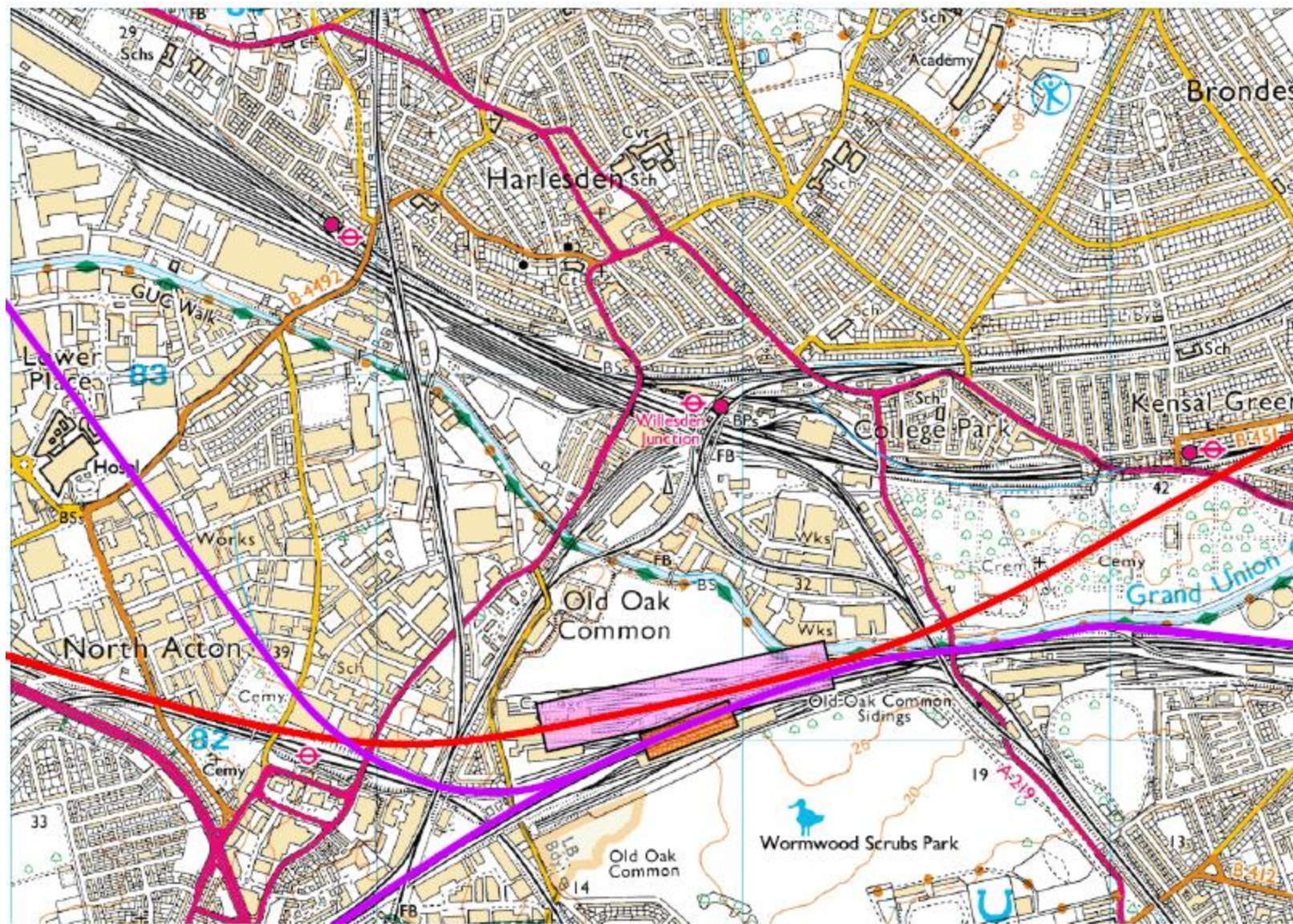


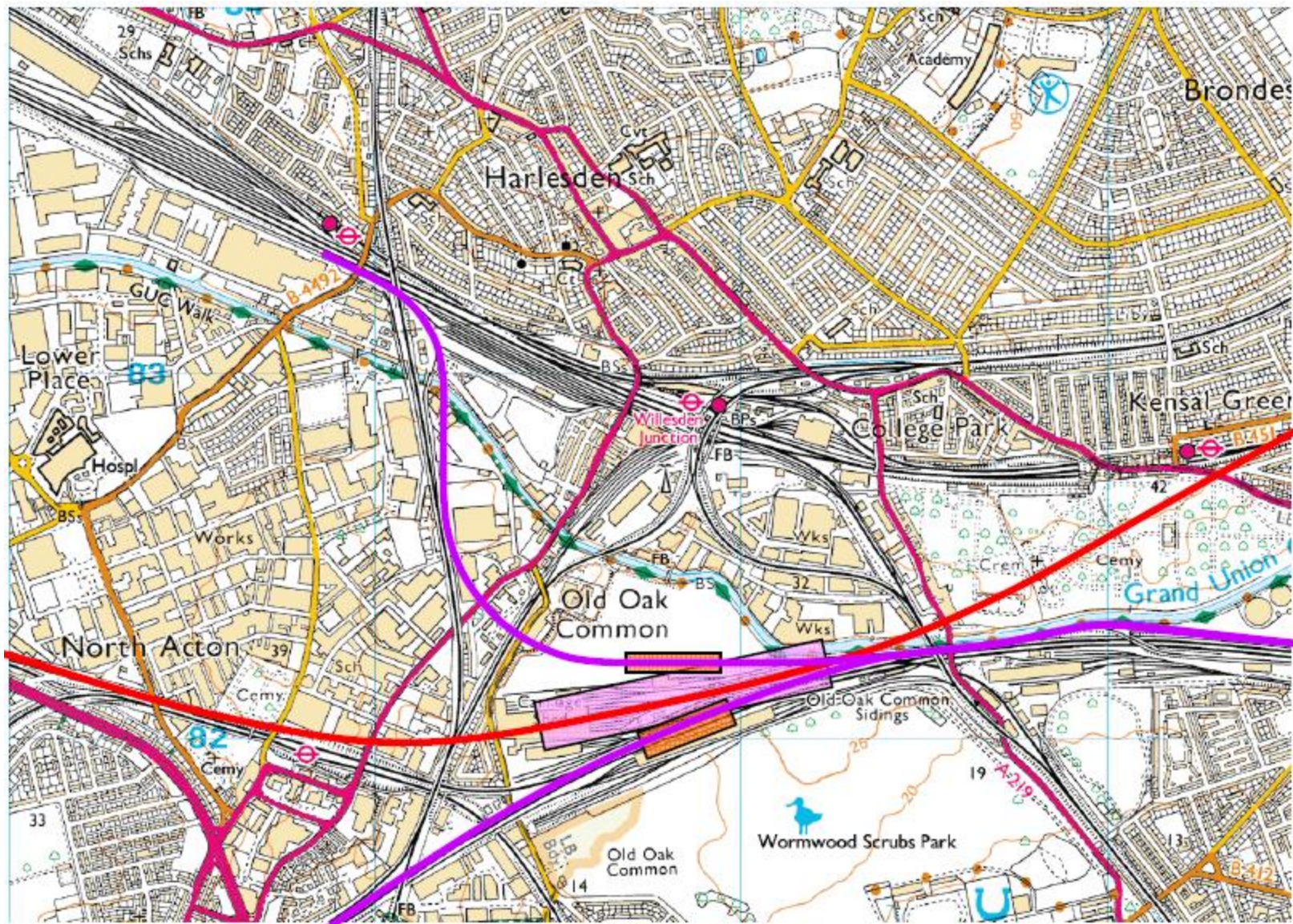
- 4km tunnel required from Old Oak Common to Wembley – *simply not necessary*
- Impacts on residential property – *not on our route*
- 4 years to construct – *hardly*
- Programming difficulties – *only with HS2 Old Oak Common box*
- £600M cost – *HSUK notional cost £100M*
- It would not avoid the need to expand Euston – ??

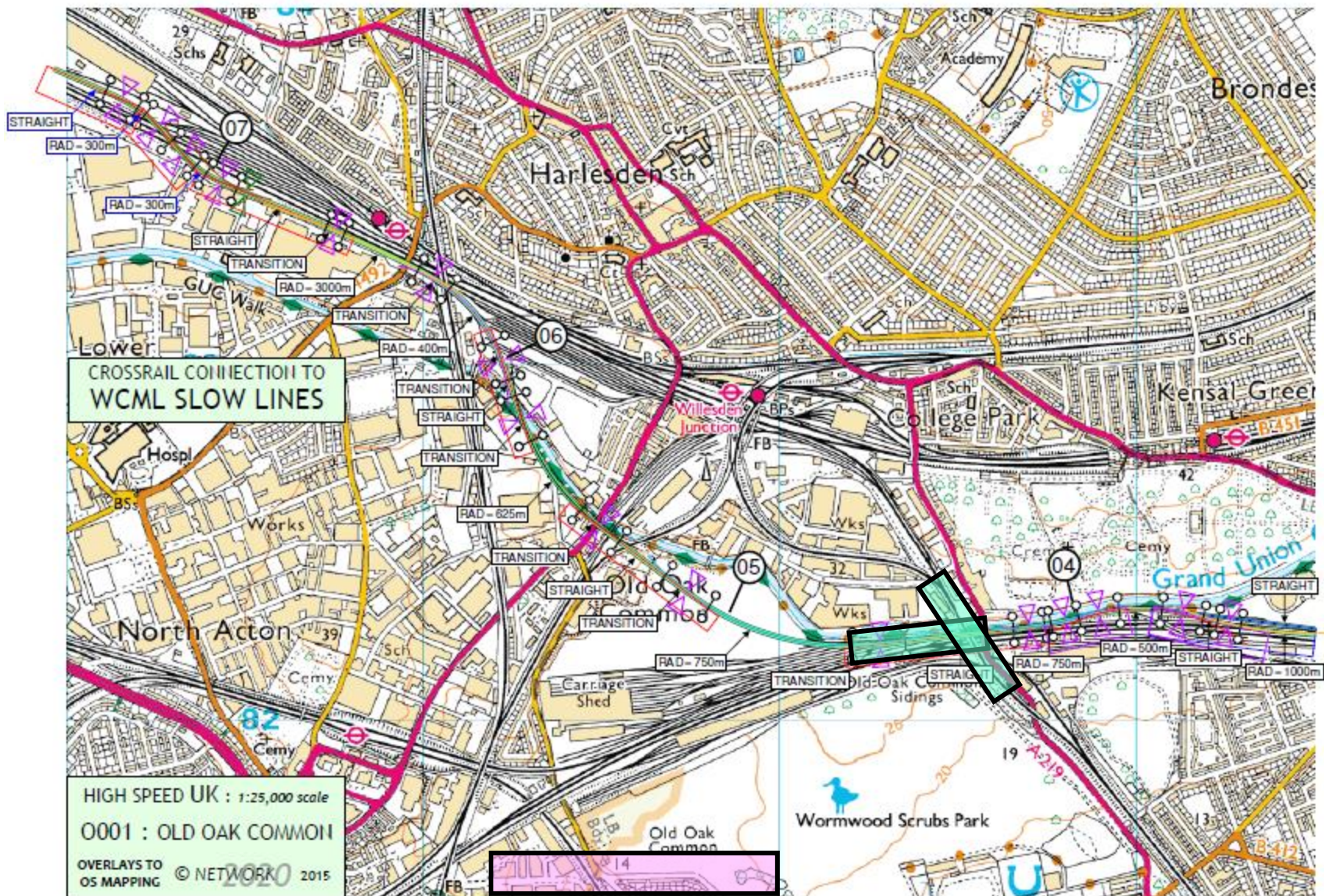
They just did not want to do it!!

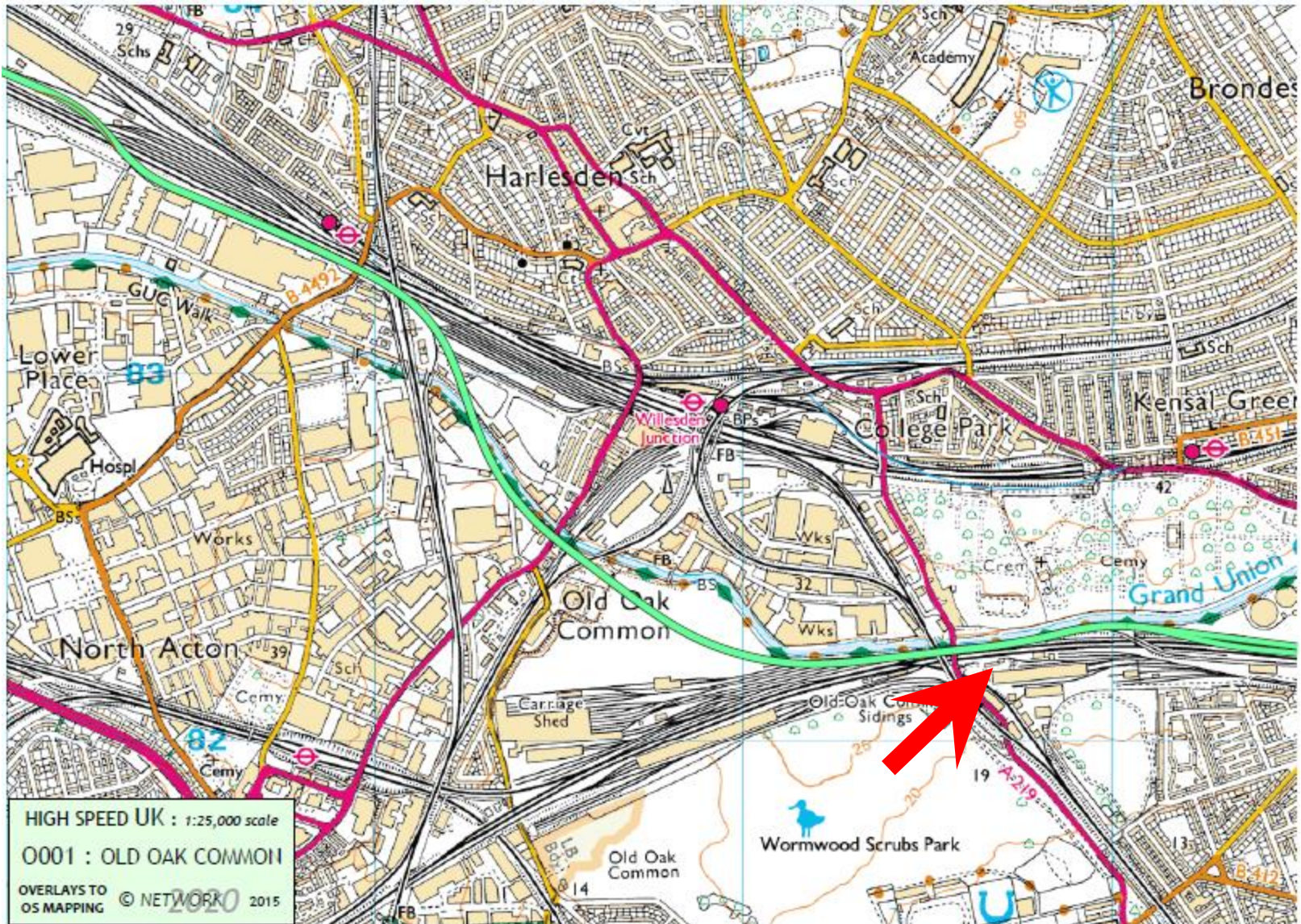






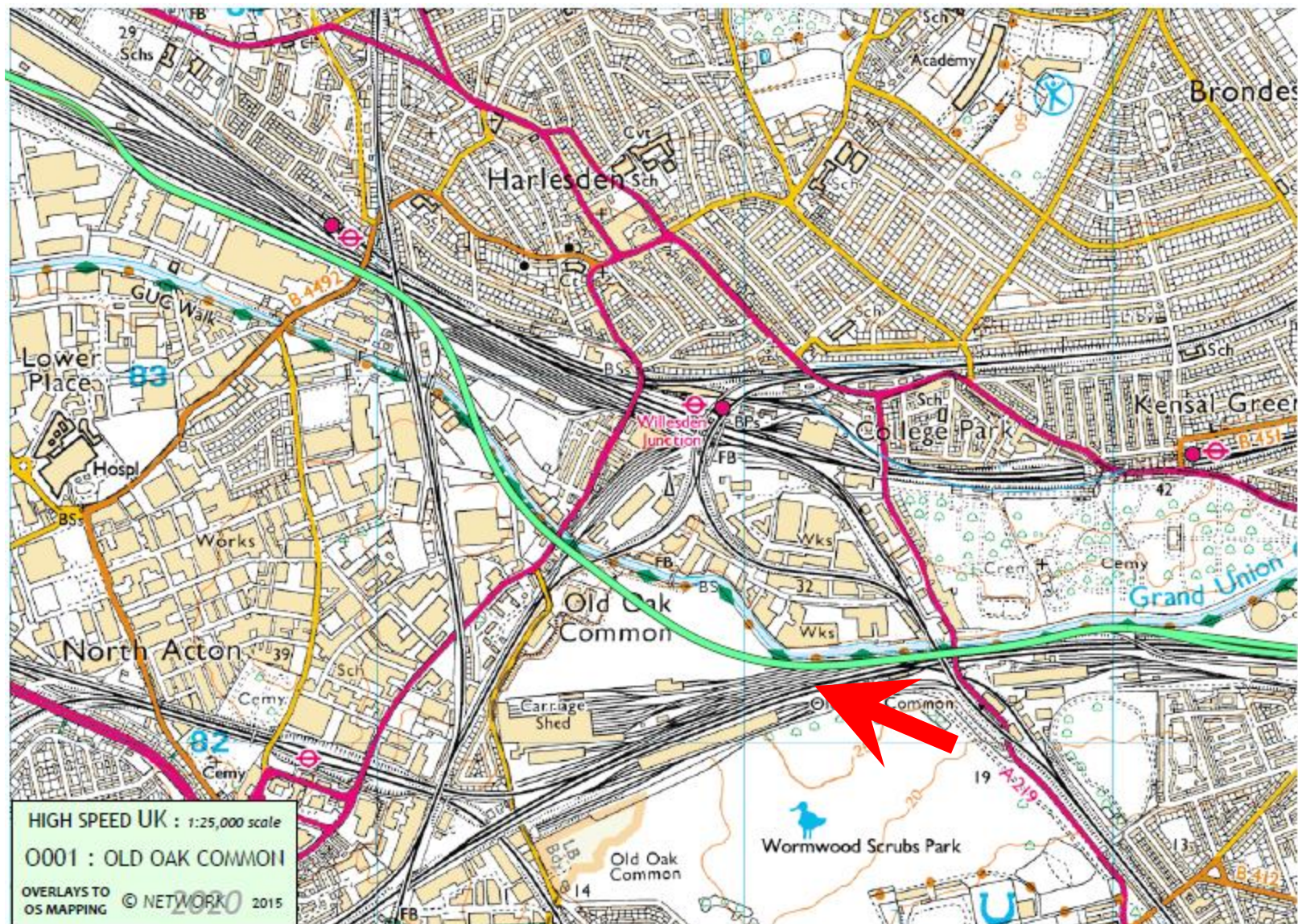




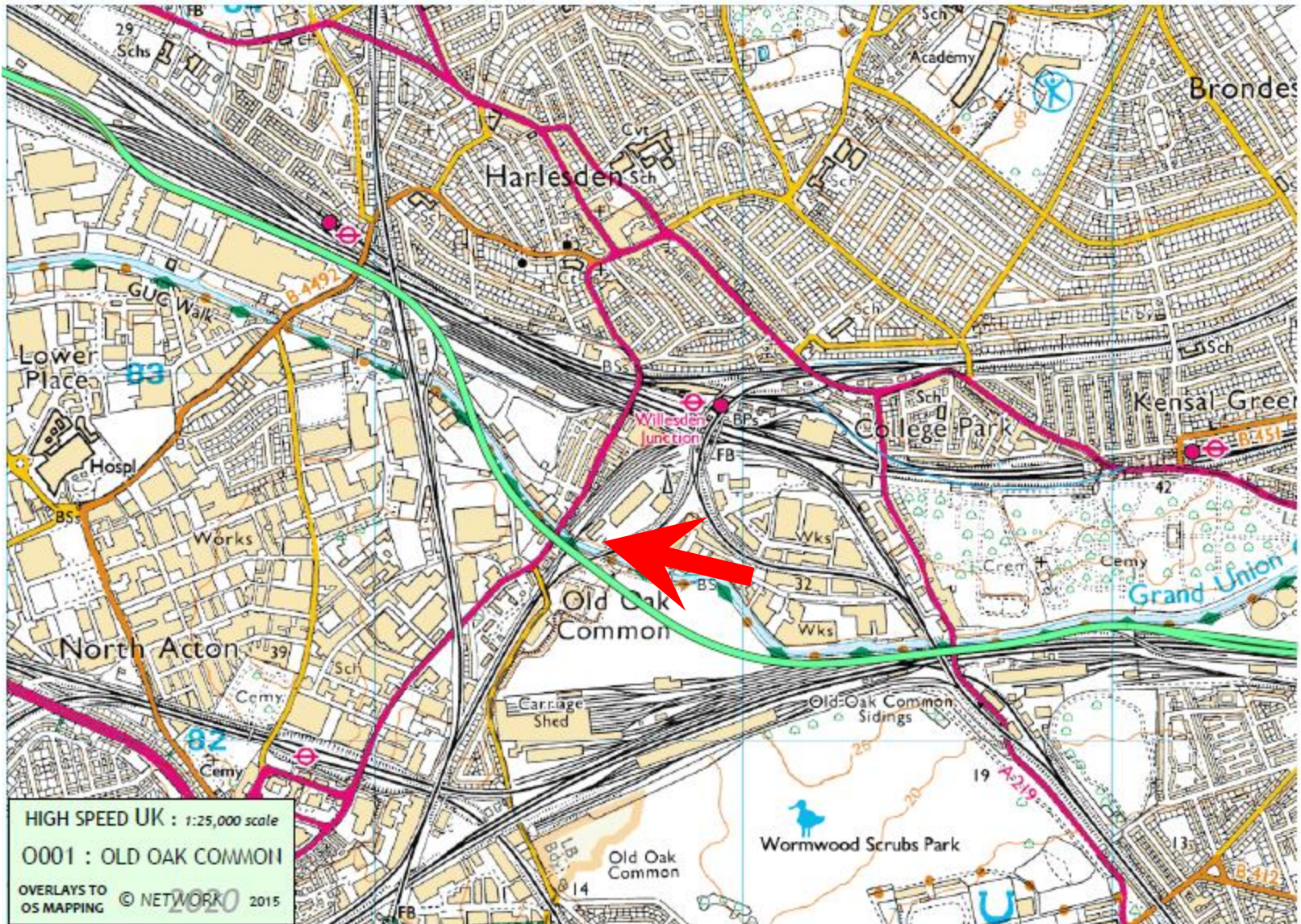


HIGH SPEED UK : 1:25,000 scale
0001 : OLD OAK COMMON
OVERLAYS TO
OS MAPPING © NETWORK 2020 2015







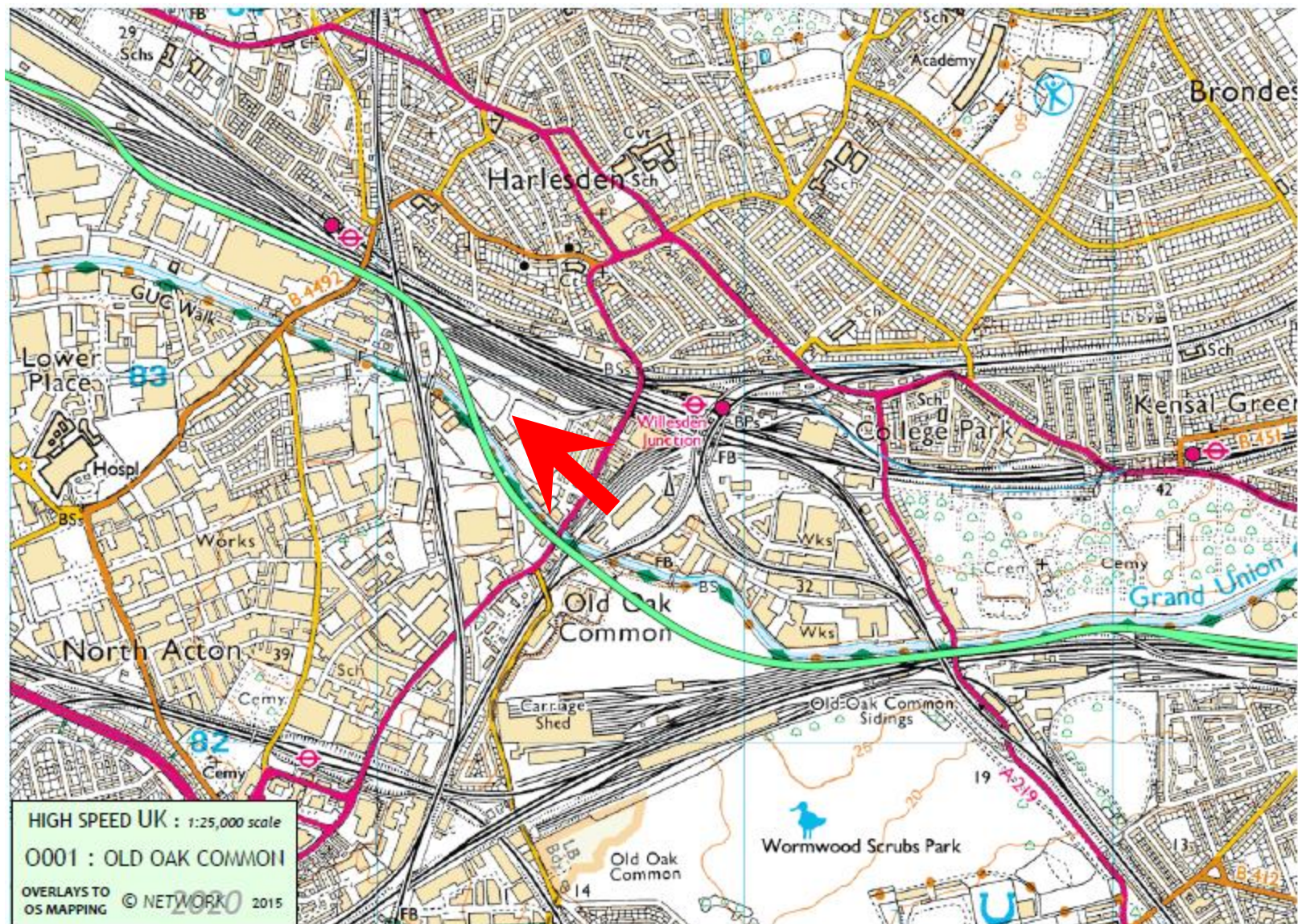


HIGH SPEED UK : 1:25,000 scale
0001 : OLD OAK COMMON
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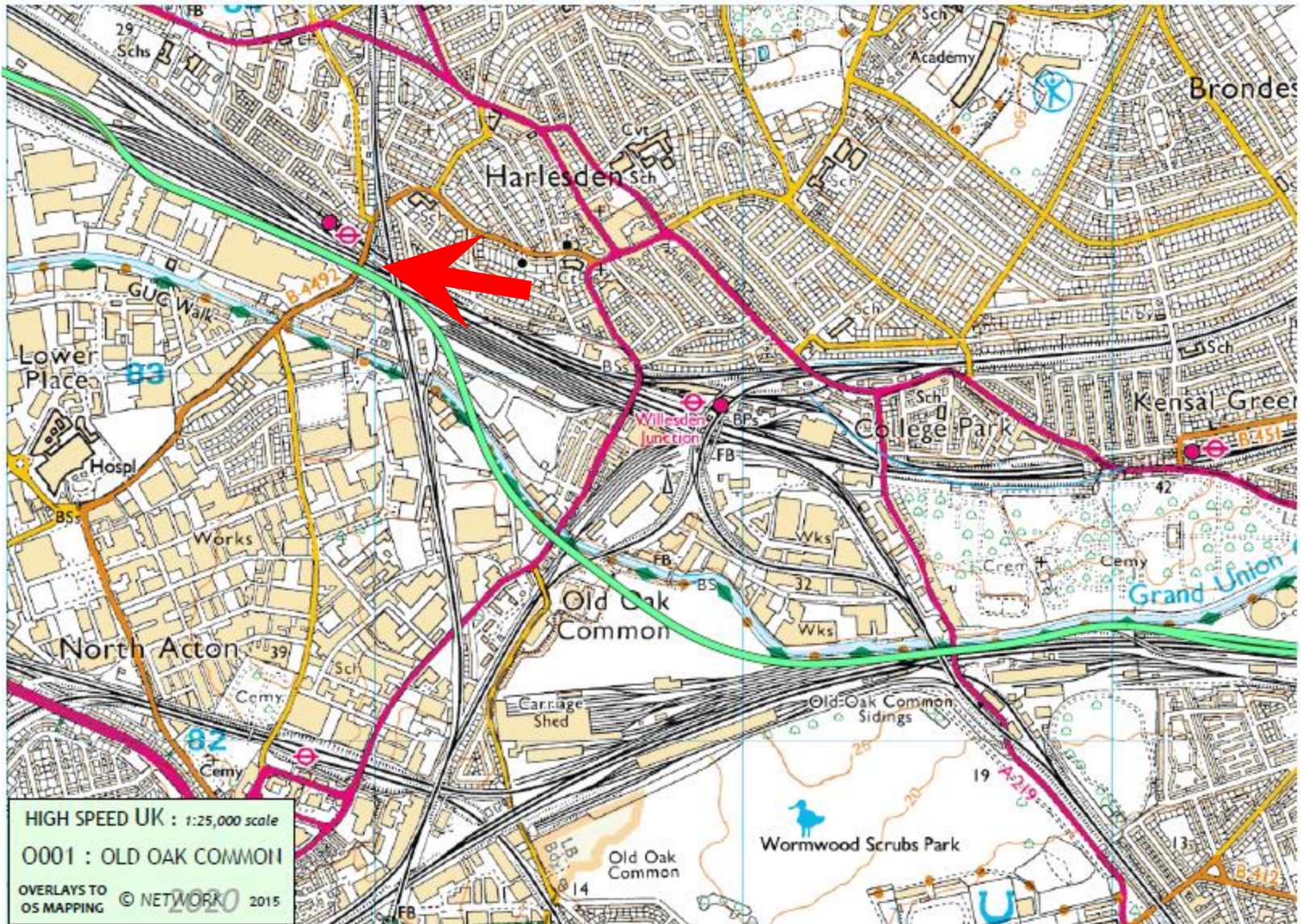












HIGH SPEED UK : 1:25,000 scale
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HSUK Proposals for London

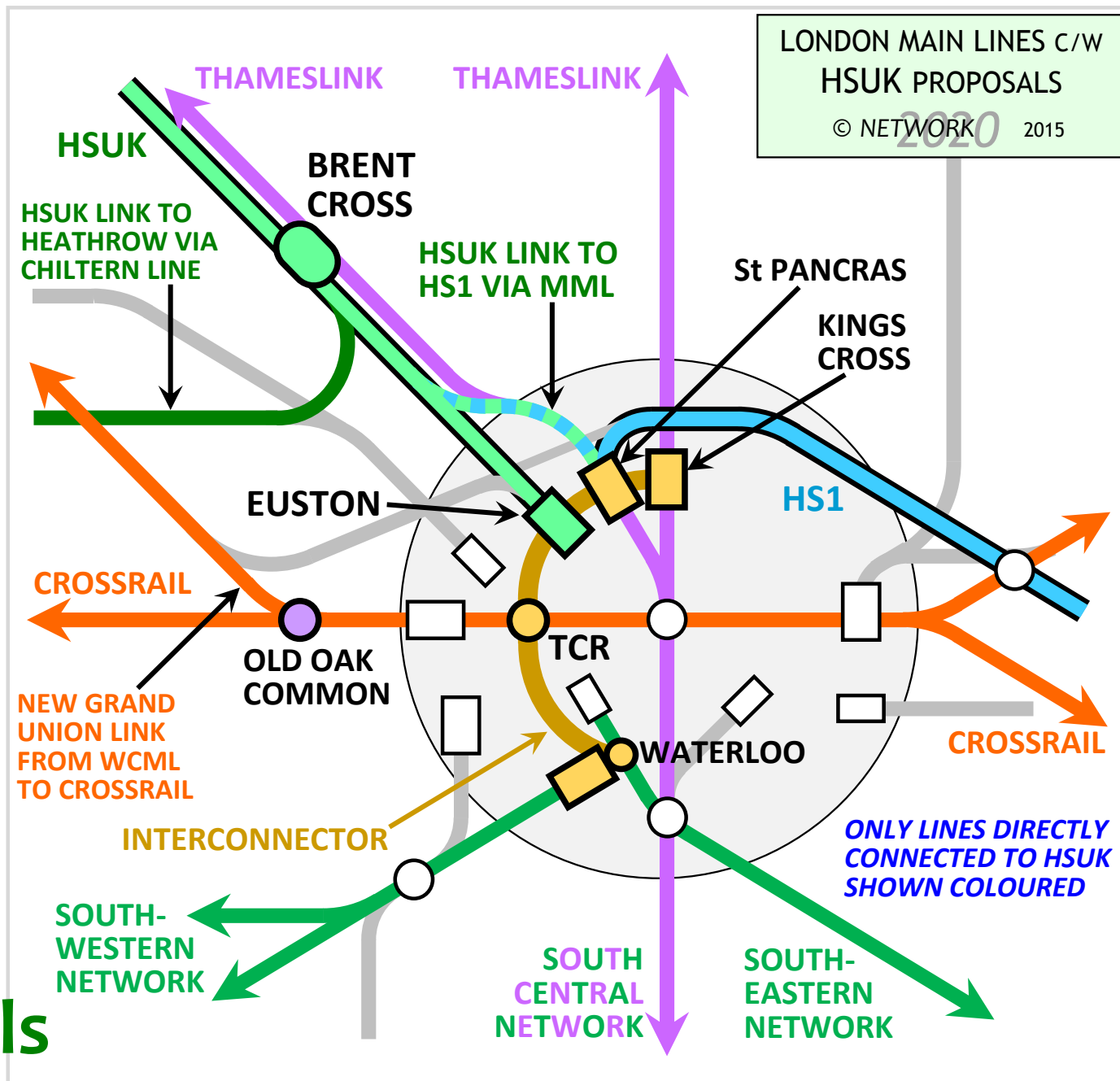
- Euston to be the primary London terminus
- HSUK also linked to St Pancras via Midland Main Line
- HSUK-HS1 link achievable at minimal cost & disruption
- Suburban station at Brent Cross providing interchange with Thameslink and Heathrow services
- Direct route from HSUK at Brent Cross to Heathrow Express platforms at LHR – through trains from North
- WCML suburban services diverted to Crossrail via the new 2km Grand Union Link (Old Oak Common to Harlesden)
- Interconnector for seamless dispersal of passengers to Crossrail, Thameslink, HS1 & Southern network services

HSUK Proposals for London

*No need to expand
Euston outside the
existing footprint!!*

HSUK

HSUK London Proposals

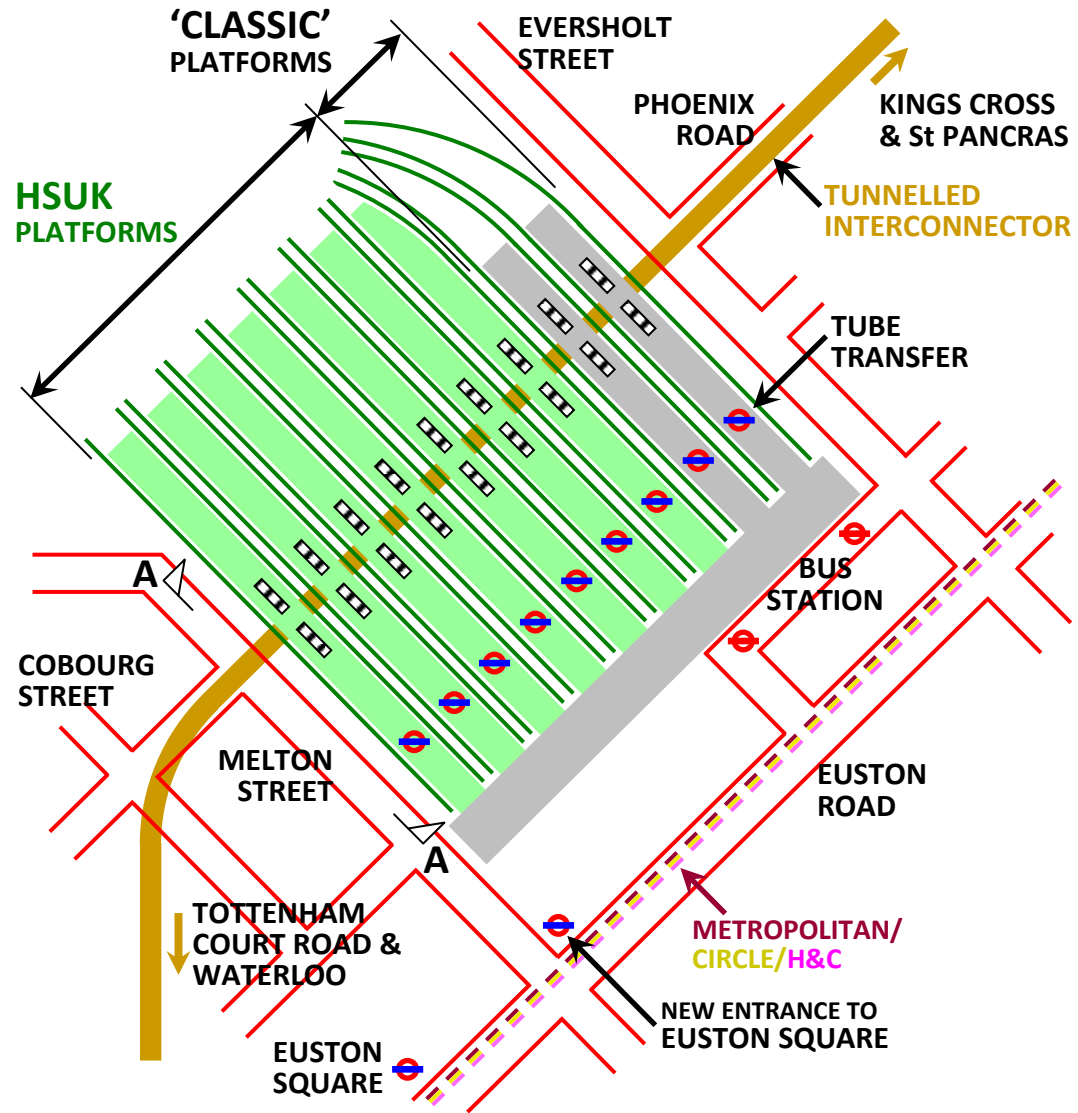


The HSUK Vision for Euston

- All construction within existing station footprint
- Still 18 platforms
- 14 platforms 400 metres long
- 4 platforms 280 metres long
- New passenger departure deck above the platforms
- Interconnector access at mid platform with Interconnector directly below the trains
- Direct access to Euston Square station with underground travelator connection
- Euston Gardens and Melton Street unaffected

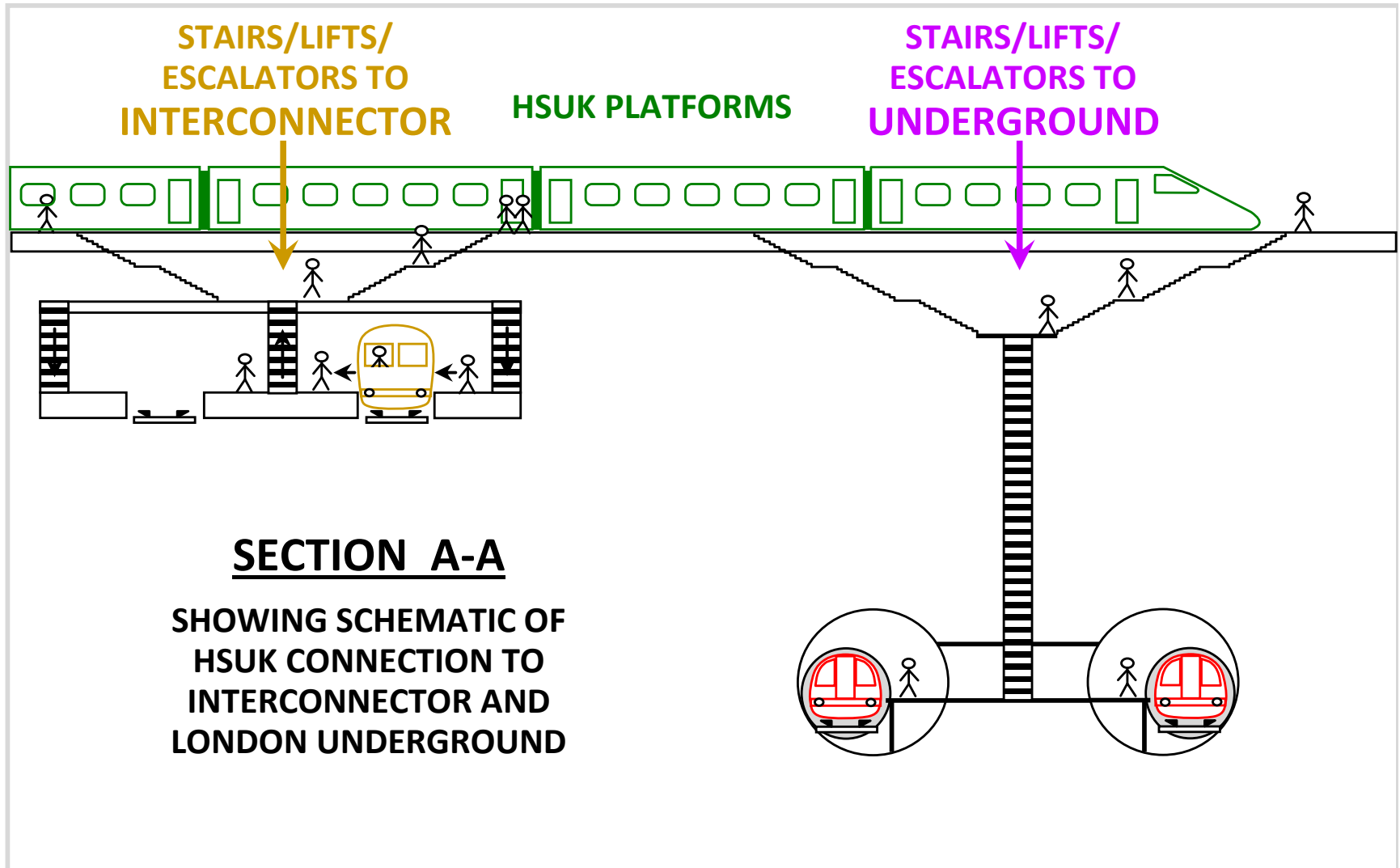


HSUK at Euston



EUSTON STATION :
HSUK REDEVELOPMENT WITHIN EXISTING FOOTPRINT

The HSUK Interconnector



The HSUK Interconnector



- Initially proposed to link King's Cross/St Pancras with **Euston**, Tottenham Court Road and Waterloo
- 1 minute to KX/St P and 4.5 minutes to Waterloo
- Has the potential for a second phase to complete the circle linking Waterloo to London Bridge, Fenchurch Street, Liverpool Street, Farringdon and back to King's Cross/St Pancras
- Designed to handle $\frac{2}{3}$ incoming HSUK arrivals
- Remaining $\frac{1}{3}$ of arrivals will use tube, bus taxi and foot

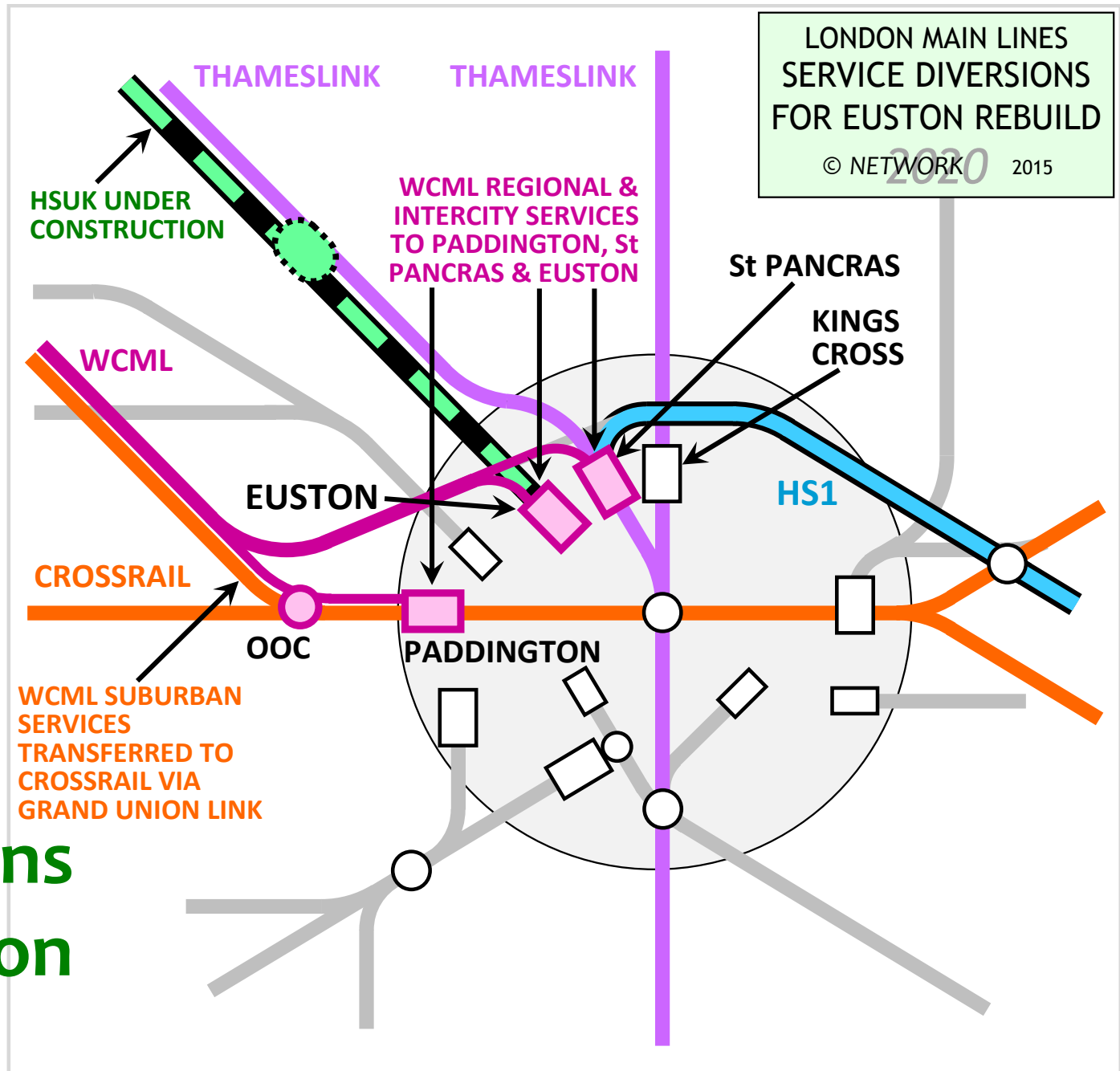
HSUK at Euston : Construction Impacts



*Let's consider how we
transform Euston into
London's Intercity
Gateway to the North...*



HSUK : Diversions for Euston rebuild



HSUK at Euston : Construction Impacts



- All LM suburban services diverted to Crossrail
- Potential to divert some Virgin Services to Paddington (via Grand Union Link) and St Pancras (via NLL link)
- Services to Euston then reduced to less than 50%
 - 9 Virgins & 3 Watford DCs
- Then possible to reconstruct the station one half at a time
- All construction work on existing railway land
- Most material brought in by rail
- All spoil removed by rail
- HSUK to HS1 link via MML – no impact on the community
 - all within the existing railway boundaries

HSUK Euston Reconstruction : Phase 1



PHASE 1_(W)
RECONSTRUCTION

The image is an aerial photograph of the Euston area in London. A large, dark, rectangular area in the center is outlined by a solid red line, indicating the 'PHASE 1(w) RECONSTRUCTION' zone. To the left of this zone, a dashed yellow line outlines another area. A red arrow points from the top right towards the reconstruction zone. The surrounding area includes various buildings, streets, and green spaces.

INTERCONNECTOR
TO KX/StP, TCR & W'LOO

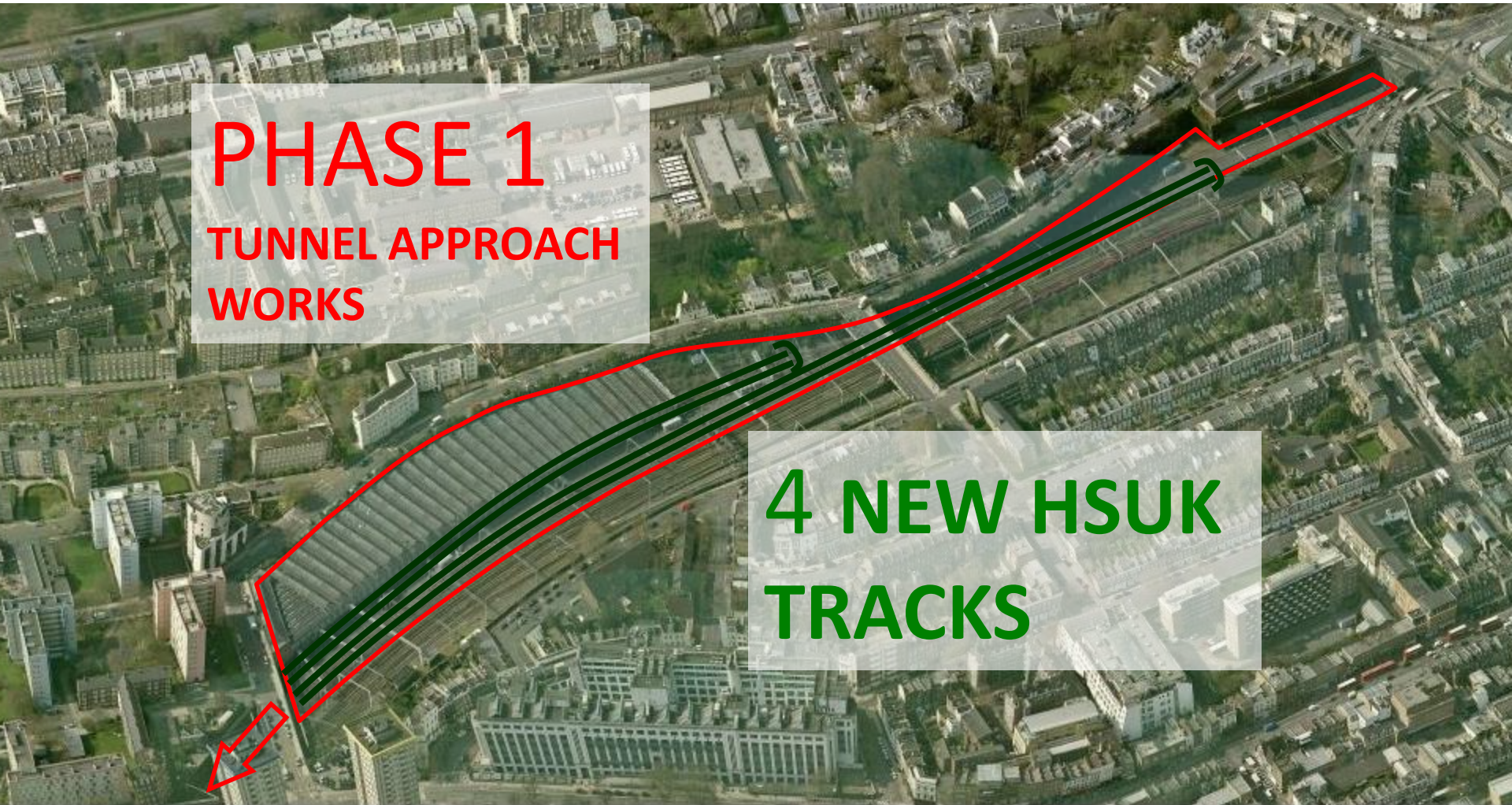
HSUK Tunnel Approach Works: Construction Area (all Phase 1)



PHASE 1_(W)
**TUNNEL APPROACH
WORKS**

**4 TRACKS
REMAINING IN
OPERATION**

HSUK Tunnel Approach Works: Sequenced Entry to Tunnels

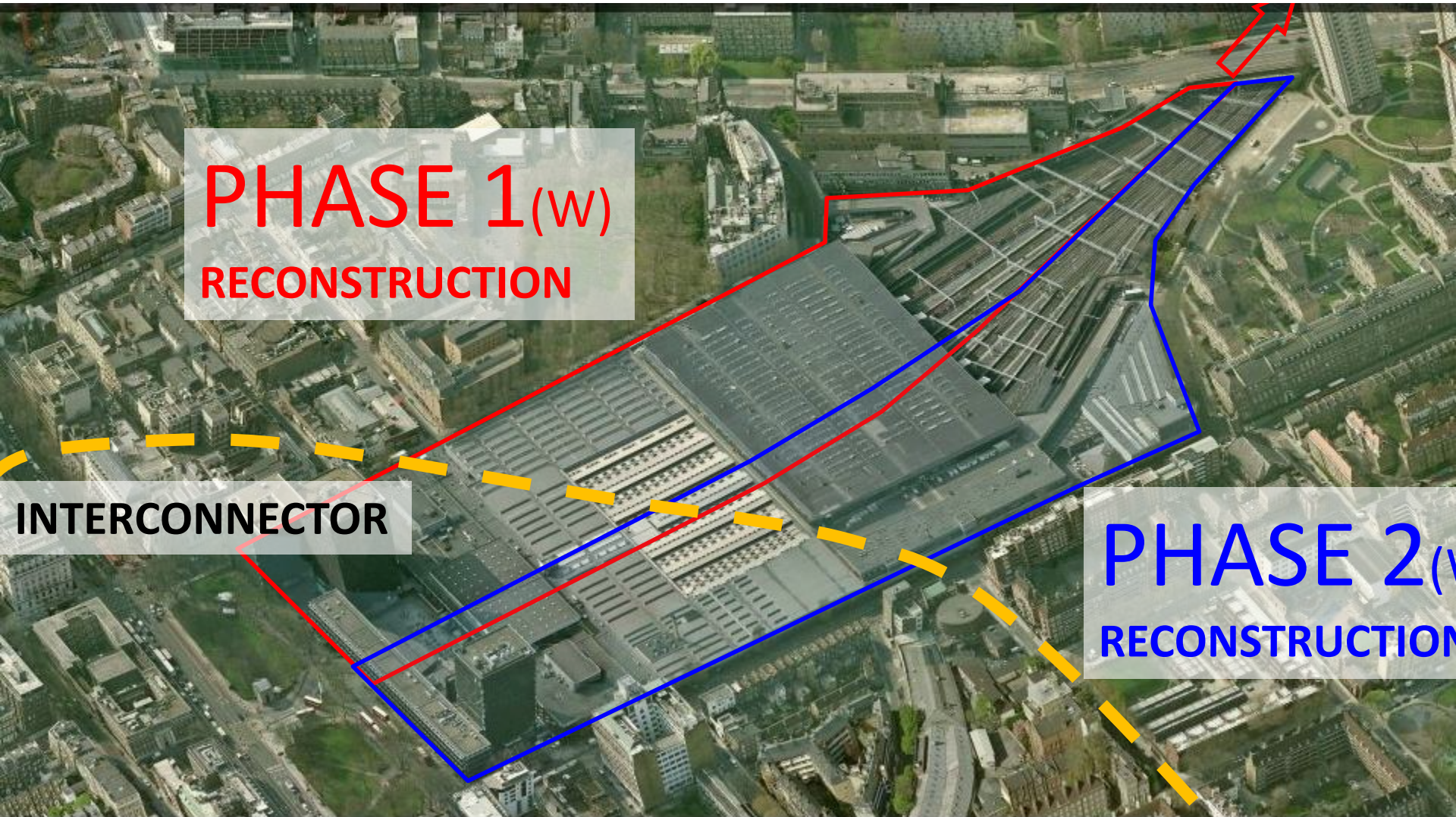


PHASE 1

**TUNNEL APPROACH
WORKS**

**4 NEW HSUK
TRACKS**

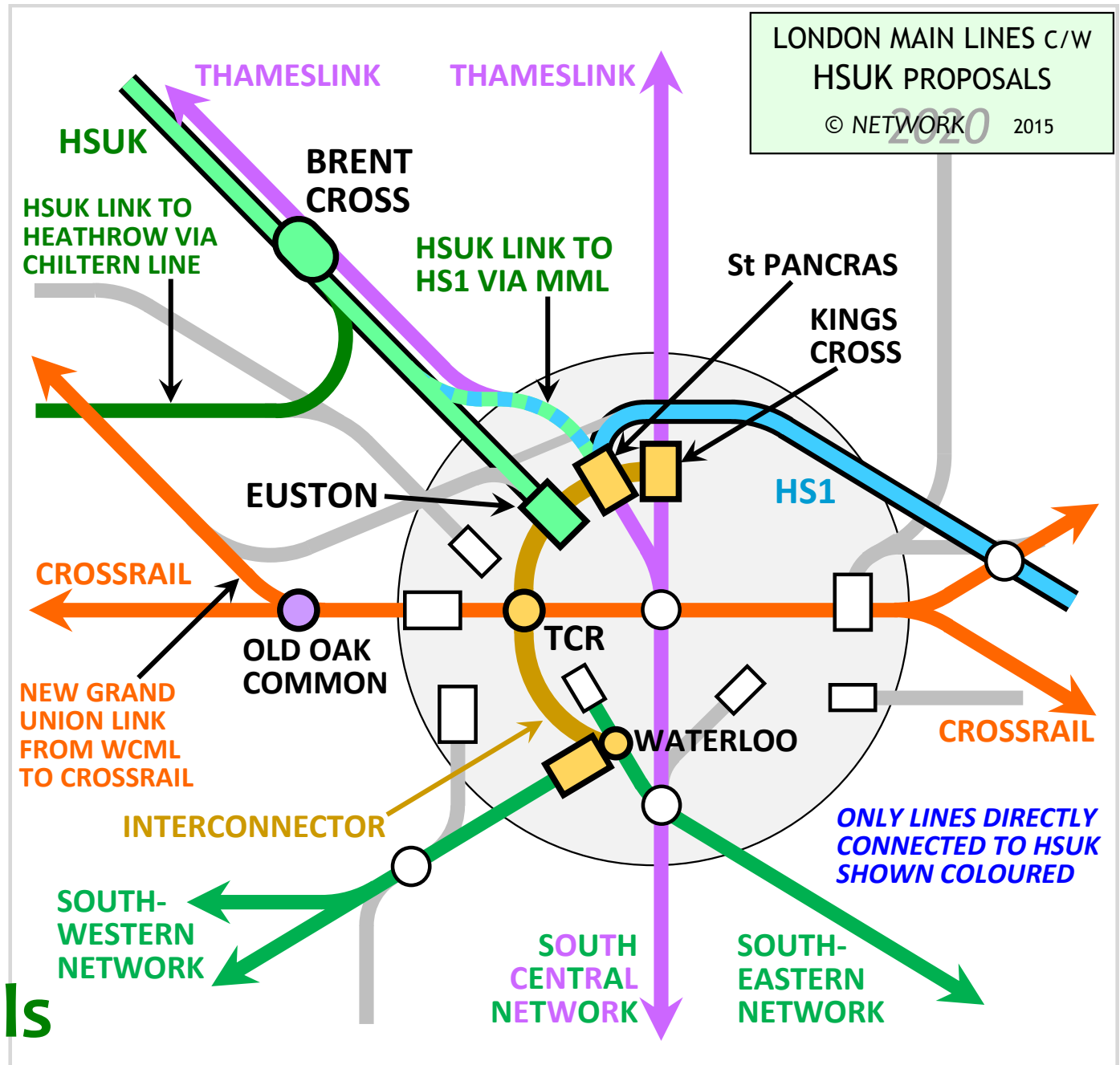
HSUK Euston Reconstruction : Phase 2



PHASE 1(w)
RECONSTRUCTION

INTERCONNECTOR

PHASE 2(v)
RECONSTRUCTION



HSUK London Proposals

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