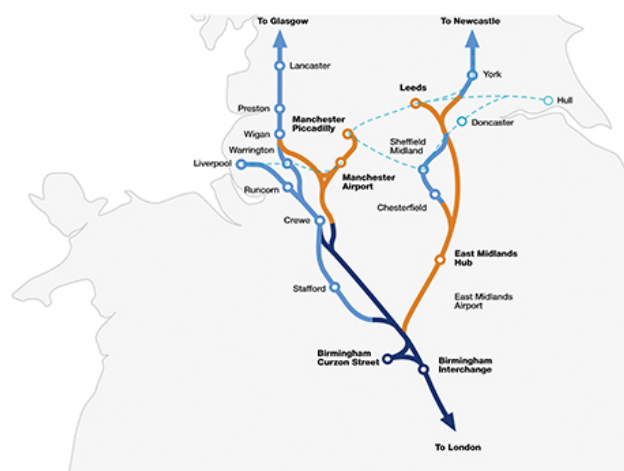


# Trans-Britain Railway: creating a £30 billion northern backbone to support economic growth across Britain

March 4, 2021



## CURRENT PROPOSAL

- HS2 Phase 1 + 2a - New Line
- HS2 Phase 2b - New Line
- HS2 - On Classic Rail Network
- Northern Powerhouse Rail



## ALTERNATIVE PROPOSAL

- HS2 Phase 1 + 2a + 2b - New Line
- Proposed TBR - New Line
- HS2 - On Classic Rail Network

## An integrated high-speed railway in northern England

Trans-Britain Railway demonstrates how an integrated approach to infrastructure planning and urban development can deliver best value and help to provide a sustainable future for Britain. With their combined experience in the design of urban and rail projects, Weston Williamson + Partners and Expedition Engineering's proposal shows how HS2 Phase 2 and Northern Powerhouse Rail can be integrated into a single point that maximises the benefits of imminent infrastructure investment.

Using tunnels and station boxes to take trains through the cities of Leeds and Manchester, Trans-Britain Railway shows how infrastructure can be shared to provide frequent, fast and more convenient services for passengers. By using underground stations with tunnel approaches, disruption and demolition within existing city centres is minimised. At Leeds the new station could encourage further development of the waterfront, supporting the broader vision of a sustainable city and making the most of the City's historic and natural assets.

The integrated approach, making the most of existing and shared infrastructure, is applied along the whole network of the Trans-Britain Railway, demonstrating how the towns and regions on each side of the Pennines will benefit from the new High-Speed Network, with direct and fast connections not just across the north, but also across Britain as a whole.

### **Delivering faster journeys**

Trans-Britain Railway utilises existing proposals for new infrastructure and introduces a new trans-Pennine rail tunnel to provide real connectivity across the north of England. Journey times between Lancashire and Yorkshire would be dramatically reduced compared to today, with Manchester to Leeds taking under 30 minutes.

Trans-Britain Railway's proposed infrastructure will allow HS2 train services to operate alongside fast regional trains, enabling high speed services between towns and cities across Britain. The opening up of these routes delivers improvements for passengers and for businesses. The Trans-Britain Railway proposal will mean that existing trans-Pennine rail routes are freed-up for freight, connecting the potential freeports at Liverpool, Humber, and Teesside, and supporting a carbon emissions reduction as goods move from road to rail.

### **A better connected region**

Trans-Britain Railway enables new intermediate stations, between the HS2 hubs of Manchester and Leeds, to be delivered providing interchanges to local transport networks, supporting local growth and development.

New stations will be built at Warrington Bank Quay, Manchester Airport, Manchester Piccadilly, Rochdale Parkway, Bradford Parkway and Leeds City. All of these will be through stations, offering operational efficiency, improved connectivity and increased capacity.

With grade separated junctions at High Leigh, Trans-Britain Railway allows train services to travel from Manchester towards Crewe (on HS2) and towards Preston (on HS2 and Network Rail), delivering connections that were previously missing.

Initially terminating at Liverpool Lime Street, Trans-Britain Railway will ultimately run into a new underground through station in central Liverpool, allowing onward connectivity to Southport.

The Trans-Britain Railway line provides new tunnels where it passes through areas of high urban density or significant geographic relief. Tunnels under Warrington, Manchester, the Pennines and Moor Head minimise the project's environmental impact on the communities through which it passes.

### **A future looking Leeds station**

Key to delivering the Trans-Britain Railway is a through station at Leeds, one that reflects the importance of the City as it becomes home to the UK's first ever infrastructure investment bank.

The new station is integrated alongside the existing Network Rail station forming a combined station that will be easy and intuitive to use, maximising passenger convenience and benefits. As well as offering passengers the option of taking new fast and frequent train services to destinations such as Manchester, Liverpool and Preston in the west, and York, Hull and Newcastle to the North and East, the station will offer up to 4 high speed trains per hour to London via Manchester.

The new Trans-Britain Railway platforms are placed underground within a structural box parallel to the existing platforms of the Network Rail station. This box is located in the space currently occupied by an at grade station carpark. The construction of the box will allow high speed trains to pass below the River Aire, accommodated in a new culvert.

Above the platforms, a new concourse allows passengers to circulate and interchange with the rest of the station's platforms, providing fast and convenient onward connectivity. Above the concourse a new deck delivers public realm and commercial spaces leading to a vibrant and activated stepped waterfront facing the River Aire.

Arranging the new infrastructure alongside the station minimises demolitions and disruptions to the city centre, as well as avoiding severance issues that may discourage future development.

The station's location facilitates a single entrance and grand public realm linking Princes Square and the riverside with City Square and Bishopsgate Street. Cycle and foot bridges spanning the river provide connections to Northern Street and the recent developments at Whitehall Quay. These routes continue across the railway connecting to Wharf Approach and the proposed developments along the canal's south bank, creating a pedestrian friendly environment and encouraging sustainable development within Leeds's historic core.

### **Combining HS2 and Northern Powerhouse to deliver real value**

The success of the Trans-Britain Railway is the way it uses existing rail networks as well as other proposed infrastructure projects, connecting them all to deliver value on investment for the British people. Part of the Trans-Britain Railway between Crewe, Manchester and Wigan will share the high-speed rail infrastructure proposed as part of HS2 Phase 2b. The two Manchester stations, Airport and Piccadilly, are located in similar positions to the HS2 Phase 2 proposals and the horizontal alignment follows the same route.

Providing a through stations at Leeds allows HS2 trains to reach Leeds from London via Manchester and the trans-Pennine tunnel, ensuring that the whole area benefits from direct HS2 trains before the proposed Eastern Leg of HS2 Phase 2b is even built. This is a better prioritisation of rail investment delivering the needs of regional rail over the coming years.

Delivering the Trans-Britain Railway proposal is estimated to cost £30bn – £35bn. This is comparable with the combined costs of the current proposals for the Northern Powerhouse and HS2 Phase 2b east. The Trans-Britain Railway proposal's additional value comes from delivering a better connected Britain enabled by a new rail spine across northern England.

Rob Naybour, Founding Partner at Weston Williamson + Partners says: “At WW+P we are interested in how infrastructure can improve our daily lives as part of a holistic urban experience, the Trans-Britain Railway builds on our recent proposal for an underground, through-station at Manchester.

“Our proposal shows how HS2 and NPR can be integrated to maximise benefits for the whole country, connecting through the centre of Manchester and Leeds with high frequency services. The design of the new infrastructure helps to create humane and vibrant places and make the most of existing assets. Our proposals for Leeds station show how the historic waterfront and the River Aire could form a centrepiece of a sustainable city.

“The route shows similar connectivity and placemaking can be applied to the towns and regions each side of the Pennines, which can also benefit from direct access to new High-Speed network.”

Alistair Lenczner, Director at Expedition Engineering says: “The integrated approach of the Trans-Britain Railway proposal means that new rail infrastructure is optimised in terms of utilisation and costs. It also means that the project is better in terms of environmental impacts and minimising carbon emissions.

“Instead of building a new terminus station that would effectively repeat the limitations of the city’s 19th century railway planning, Leeds deserves to have a through station design that is fit for the 21st century and maximises rail connectivity for all rail travellers. The proposed underground TBR station at Leeds will provide the enhanced through station that the city deserves.”