

# HS2 Design Consultation Response

## Background

Established in 1818 and with over 95,000 members worldwide, the Institution of Civil Engineers exists to deliver insights on infrastructure for societal benefit, using the professional engineering knowledge of our global membership.

ICE supports the concept of a new High Speed rail line and has previously published an insight paper outlining the potential benefits of HS2, delivery challenges and the alternative approaches to delivering improvements to the UK's railways.<sup>1</sup>

This response was informed by a roundtable with representation from ICE members and stakeholders across the North West, Yorkshire & Humber, the North East and Scotland to garner expert opinion on the proposals in the consultation.

## General observations

In principle, we support the design refinements with some overarching observations:

- This consultation has come at the wrong time. Design developments need to be progressed in conjunction with wider issues and rail announcements, specifically the Integrated Rail Plan (IRP) and Northern Powerhouse Rail (NPR) Phasing these programmes ensures that the end solution meets the longer-term demands for the region and that the approach to delivery and commissioning is seamless.
- Collaboration is vital throughout the design, construction and delivery of HS2. The regeneration benefits of HS2 are fundamental to its business case so lessons must be learned from previous projects, specifically:
  - whether the new proposals on number of platforms at stations are sufficiently future-proofed;
  - whether station design has protected development considerations;
  - if there is sufficient land-take for the land use opportunities around the assets to be maximised. Further land use opportunities mean that good community engagement will be even more important. ICE has a community engagement Community of Practice that is developing principles for good practice on public engagement and would be happy to discuss further with the Department for Transport and HS2.

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<sup>1</sup> ICE (2019) [Civil engineering insights on HS2 and alternative proposals](#)

- An Indicative Train Service Specification is required covering the HS2 network, NPR, the future capacity of the West Coast Mainline (WCML) and the total network serving south Manchester and northern Cheshire. This is needed to understand where future pinch points may occur, particularly on the tunnel section of HS2, and on WCML where the implications of freight served by Liverpool docks is a key element to the North West economy. There will also be a need to identify if specific services can no longer be run.
- The net-zero greenhouse gas emissions target must be central to the second phase of HS2. The business case must demonstrate a sound whole-life carbon cost/benefit analysis for the scheme, alongside innovative low carbon construction methods.

### Specific comments on the four design refinements:

1. We support the addition of the Crewe Northern Connection. Early consultation with the rolling stock delivery companies is vital as their specific requirements could have significant impact on the depot size and layout, making the fixing of depot design premature. Deferring a decision on the detailed design of the Crewe North Rolling Stock Depot would allow for improved consultation on highways development and better stakeholder engagement.
2. The proposed changes to the design of Manchester Airport High Speed station to become a 4-platform station are welcome to support its integration with NPR, but an early draft of a service proposition is required to understand how train paths will be managed. This is key as the airport station will be the first point at which NPR and HS2 services merge. It therefore becomes one of the controlling points before services depart towards Manchester Piccadilly. The integration of the proposed Piccadilly station and the planned Leeds/NE junction is impacted by the arrangements at the airport station. An early draft of a service proposition would have been helpful, as it is currently unclear whether all platforms would be available to all services.

Issues that should also be addressed are:

- what is the potential for over-site development to support the station's financing, as occurred at Old Oak Common Crossrail station?
- what flexibility is there in car park provision to support changes to car and public transport use over time?
- has the proposal on highway amendments been carried out in conjunction with Highways England and local highways authorities to ensure that the project addresses the considerable congestion problems that already exist in the area planned for the station?

3. The increase of platforms at Manchester Piccadilly High Speed station is welcome but further clarity is needed on service propositions particularly in relation to NPR and Transpennine services. We strongly recommend that a delivery body is needed to drive through the development of Piccadilly station in a holistic way, incorporating lessons learned from the development of Euston station and its interaction with stakeholders. We note that there are significant benefits which could arise from the effective use of the land around the station.

Specifically, we consider that further work is done to ascertain whether the Piccadilly HS2 station should be planned with through-platforms as well as terminus platforms, to examine if this configuration would offer significant additional train service pattern and passenger journey inter-connectivity benefits over the entire Northern railway network. The through HS2 Piccadilly station could allow for High Speed Trains to follow routes from Liverpool, Manchester Airport and Birmingham uninterrupted through Manchester Piccadilly to Bradford, Leeds and the other great cities of the East that would otherwise be impossible, thus supporting growth throughout the whole of the Northern economy.

4. We note that there is an effective working group looking at the introduction of a new train stabling facility at Annandale, in Dumfries and Galloway, and recognise the proposal for formal inclusion of HS2 facilities in Scotland as a positive move towards a full network. The depot design needs to be based on the service model requirements and the HS2 Maintenance Strategy, and work in conjunction with facilities at Polmadie Glasgow depot. Consideration should be given to the proximity of this facility to the point where trains enter or leave service. This is in order to minimise adverse impacts on overnight maintenance possessions times that might otherwise be compromised by moving empty trains a longer distance before they enter service.

