



Phase 2b Western Leg Information Paper

A3: Northern Powerhouse Rail interfaces on the Phase 2b Western Leg

This paper outlines the proposals for integrating the Phase 2b Western Leg with Northern Powerhouse Rail. It describes the works that are proposed for inclusion in the Crewe – Manchester hybrid Bill for this purpose.

It will be of particular interest to those potentially affected by the Government's proposals for high speed rail.

This paper was prepared in relation to the promotion of the High Speed Rail (Crewe - Manchester) Bill. Content will be maintained and updated as considered appropriate during the passage of the Bill.

If you have any queries about this paper or about how it might apply to you, please contact the HS2 Helpdesk in the first instance.

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1 Introduction

- 1.1 High Speed Two (HS2) is the Government's scheme for a new, high speed north-south railway, which is being taken forward in a number of phases. Phase One will connect London with Birmingham and the West Midlands. Phase 2a will extend the route from the West Midlands to Crewe. The Phase 2b Western Leg will connect Crewe to Manchester. As set out in the Integrated Rail Plan, published in November 2021, HS2 East is proposed to deliver a new high speed line from the West Midlands to East Midlands Parkway.
- 1.2 HS2 Ltd is the non-departmental public body responsible for developing and promoting these proposals. The company works under the terms of a Development Agreement entered into with the Secretary of State for Transport.
- 1.3 The construction and operation of Phase One of HS2 is authorised by the High Speed Rail (London – West Midlands) Act 2017 and Phase 2a by the High Speed Rail (West Midlands – Crewe) Act 2021.
- 1.4 In January 2022, the Government introduced a hybrid Bill to Parliament (hereafter referred to as 'the Bill'), to seek powers for the construction and operation of the Phase 2b Western Leg (the Proposed Scheme), which is called the High Speed Rail (Crewe – Manchester) Bill. The Proposed Scheme comprises the Phase 2b Western Leg from Crewe to Manchester and several off-route works. It also facilitates the delivery of Northern Powerhouse Rail by providing the Crewe Northern Connection and junctions and other infrastructure to be used in future schemes.
- 1.5 The work to produce the Bill includes an Equalities Impact Assessment and an Environmental Impact Assessment (EIA), the results of which are reported in an Environmental Statement (ES) submitted alongside the Bill. The Secretary of State has also published draft Environmental Minimum Requirements (EMRs), which set out the environmental and sustainability commitments that will be observed in the construction of the Proposed

Scheme. For more information on the EMRs please see Information Paper E1: Control of environmental impacts.

1.6 The Secretary of State for Transport is the Promoter of the Bill through Parliament. The Promoter will also appoint a body responsible for delivering the Proposed Scheme under the powers granted by the Bill. This body is known as the 'nominated undertaker'. There may be more than one nominated undertaker. However, any and all nominated undertakers will be bound by the obligations contained in the Bill, the policies established in the EMRs and any commitments provided in the information papers.

1.7 These information papers have been produced to explain the commitments made in the Bill and the EMRs and how they will be applied to the design and construction of the Proposed Scheme. They also provide information about the Proposed Scheme itself, the powers contained in the Bill and how particular decisions about the Proposed Scheme have been reached.

2 Overview

2.1 This information paper outlines the proposals for integrating the Phase 2b Western Leg with Northern Powerhouse Rail (NPR). It describes the works that are proposed for inclusion in the HS2 Crewe to Manchester Bill for this purpose.

3 Rebalancing Britain

3.1 In 2014, in the "Rebalancing Britain" Report, David Higgins as Chair of HS2 Ltd recommended that further attention be given to enhancing east-west connectivity between five city regions in the north – Liverpool, Manchester, Leeds, Sheffield, Newcastle. He also recommended the creation of a single strategic body for the North – Transport for the North (TfN) – to create a unified voice for strategic rail developments. NPR is the strategic rail programme being developed by DfT and TfN to better connect the main centres in the North of England.

- 3.2 In 2015 the Government and TfN issued a vision statement “The Northern Powerhouse: One Agenda, One Economy, One North.” This emphasised the importance of improved connectivity for transforming the economy of the North.
- 3.3 Since 2015, TfN and DfT have worked together on proposals for how NPR might connect to HS2. The proposals that have been developed seek to enable NPR to connect to the HS2 network, making use of space capacity on sections of HS2 to enable the NPR programme to achieve its aspirations for journey time and service frequencies between major city regions.
- 3.4 TfN’s ‘Strategic Transport Plan’ (2019), set out how the NPR network could be formed. This includes use of the railway as part of a route from Liverpool to Manchester.
- 3.5 The ‘Integrated Rail Plan’ (2021) sets out the Government’s blueprint for the development of train services across the Midlands and North and towards Scotland and London, bringing together communities and strengthening the economy. It sets out how the Government will take forward and bring together the development of Phase 2b of HS2, NPR, the Midlands Rail Hub (MRH), and other major Network Rail schemes and programmes for the North and Midlands over the period to 2050. It also considers how to deliver these schemes in the most efficient way, learning lessons from the sponsorship and delivery of other major programmes, seeking to deliver benefits more quickly than existing plans.
- 3.6 The Integrated Rail Plan includes in its “core pipeline” of investment a new NPR high-speed line between Warrington, Manchester and Yorkshire making use of the railway. Although the inclusion of works in the HS2 Crewe to Manchester Bill to make provision for this new NPR line introduces new and different impacts with the HS2 construction phase, it also avoids the potential costs and disruption caused should these interfaces be constructed at a later date when HS2 services are operational.

4 Strategic interfaces with NPR

4.1 The extent and type of works envisaged for each NPR interface varies and includes consideration of whether to provide the interface in an 'active' or 'passive' form.

4.2 Active provision refers to the inclusion of all the necessary works for NPR services to operate on HS2 in future in the HS2 Crewe to Manchester Bill and delivering them in one go as part of a single HS2 construction phase. Generally, the decision has been made to opt for 'active provision' where it would not be possible, or would be prohibitively expensive, to adapt HS2 infrastructure in future to accommodate NPR.

4.3 Passive provision refers to the minimum level of additional works that would be needed in the HS2 Crewe to Manchester Bill to ensure that NPR can connect to HS2 in future without significantly interrupting HS2 operations. At locations where passive provision is planned, this generally involves the provision of civil engineering structures and earthworks from HS2 to a distance of 500m away.

4.4 The NPR interfaces on the Phase 2b Western Leg are as follows:

- Crewe Northern Connection (active provision);
- London to Liverpool Junction (passive provision);
- Manchester to Liverpool Junction (passive provision);
- Manchester Airport High Speed station (active provision);
- Manchester Piccadilly High Speed station (active provision); and
- Manchester to Leeds Junction (passive provision).

Crewe Northern Connection

4.5 Crewe Northern Connection will support the strategic objectives of NPR and the Crewe Hub rail programme, being developed by Network Rail.

- 4.6 Under Phase One and Phase 2a of HS2, high speed services can call at Crewe, but to continue their journey to destinations to the north, can only use the existing West Coast Main Line and be subject to capacity, reliability and speed restrictions on it. Under proposals for Phase 2b without a Crewe Northern Connection, a number of high-speed services would bypass Crewe Station entirely on their way to destinations to the North by using Crewe Tunnel.
- 4.7 The inclusion of Crewe Northern Connection would enable high speed services that call at an enhanced Crewe Hub station to then re-join the HS2 main line north of Crewe, as opposed to the using the West Coast Main Line. This would enable enhanced connectivity between Crewe and Manchester via HS2 that would not be possible with Phase 2b alone.
- 4.8 Subject to the construction of the NPR route to Warrington and Liverpool, Crewe Northern Connection would also deliver faster journeys between Liverpool and Crewe than is achieved by HS2 without the Crewe Northern Connection.
- 4.9 Crewe Northern Connection is intended to enable up to an additional 4 trains per hour serving Liverpool and Manchester Airport and Piccadilly High Speed Stations from Crewe Hub.
- 4.10 If further investment is made to the West Coast Main Line north of HS2's proposed junction at Lily Lane near Golborne, then Crewe Northern Connection alongside these investments would enable between 5 and 7 services to call at Crewe and travel on to the north west and Scotland with faster journey times via the HS2 network.
- 4.11 Crewe Northern Connection will be delivered as 'active provision'.

London to Liverpool Junction

- 4.12 Passive provision is made in the HS2 Crewe to Manchester Bill for a junction between HS2 and a future NPR route to Warrington and Liverpool. This junction would enable high speed services on the HS2 main line north of Crewe to connect to a future NPR line to Liverpool and

by-pass the West Coast Main Line, improving journey times between London, Crewe and Liverpool.

- 4.13 To enable this, the railway has been designed to allow two additional tracks to be laid at a later date for a new London to Liverpool line. Earthworks and civil engineering structures are provided to support the London to Liverpool line to cross over the railway near Hoo Green Lane.

Manchester to Liverpool Junction

- 4.14 Passive provision is provided for a junction between the railway and a new NPR line to Warrington and Liverpool. This junction, combined with a new line between Liverpool and Manchester, would enable high speed services from Liverpool to avoid the constraints of the existing conventional network and travel to Manchester Airport and Manchester Piccadilly high-speed stations.
- 4.15 The earthworks and civil engineering structures required to support a junction with NPR are provided on the railway in the vicinity of Ashley and extended west, under the A556 to a point near Millington Lane.

Manchester Airport High Speed station

- 4.16 Four platforms are provided at Manchester Airport station to provide further capacity for NPR services calling at the Airport in future, in addition to the HS2 services serving the station. Additional capacity within the station design and car parking space is also provided for predicted future NPR need.

Manchester to Leeds Junction

- 4.17 Passive provision is made in the Ardwick area for a grade separated junction in the HS2 Crewe to Manchester Bill for a grade separated junction in the Ardwick area to connect a new NPR line from Manchester to Yorkshire to support NPR services between Manchester and Leeds.
- 4.18 In future, it is proposed that both NPR and HS2 services would use the HS2 Manchester Spur between Manchester Airport and Manchester Piccadilly High Speed stations. Then NPR services between Liverpool,

Manchester and Leeds would be required to reverse from the Manchester Piccadilly High Speed station to the future Manchester to Leeds Junction to continue their journey onwards to Leeds.

- 4.19 Government is yet to determine a preferred route for an NPR connection from Manchester to Yorkshire. This would be subject to a separate formal consultation process.

Manchester Piccadilly High Speed station

- 4.20 Two 400m platforms are provided at Manchester Piccadilly High Speed station for future NPR services from Liverpool and Yorkshire, in addition to the 4 HS2 platforms, providing a total of 6 platforms. The design and layout of the approach tracks to Manchester Piccadilly High Speed station have also been designed to provide operational flexibility and capacity for future service growth, including NPR.

5 Other adaptations to HS2

- 5.1 Besides these interfaces, in a number of locations the proposed HS2 infrastructure has been designed to avoid precluding the running of NPR services in future or making it expensive or disruptive to do so. For example, the capacity of the proposed traction power system on the Proposed Scheme can supply enough power for additional NPR services while they operate on HS2 infrastructure.

6 Key Design Assumptions

- 6.1 Since 2015, HS2 Ltd has acted as a Technical Advisor to the DfT and TfN on the proposed development of potential new lines for NPR. Network Rail have acted in a similar technical advisory capacity for TfN and the DfT on upgrades to existing lines and non-high speed options for NPR.
- 6.2 In the development of designs for these interfaces, HS2 Ltd have acted according to some key assumptions. As HS2 Ltd was instructed to assume new high speed lines for NPR, the track form, civil engineering and other elements of the design produced by HS2 Ltd for NPR follow existing HS2 design standards.

- 6.3 As it is proposed that NPR services will connect to and join the HS2 network in the future, a key assumption in the development of these interfaces is that NPR rolling stock will be capable of matching HS2 rolling stock technical specifications. This ensures that if in future NPR services use the HS2 network they can do safely and efficiently, without incurring additional cost, journey time or reliability penalties for either programme.
- 6.4 The assumption that NPR rolling stock will match HS2 rolling stock technical standards, has also allowed the potential impact of the operation of additional NPR services on the HS2 network to be modelled for the purposes of the Environmental Statement. For instance, this has allowed the operation of NPR services to be factored into the operational sound, noise and vibration assessment that will be contained in the ES. The ES that accompanies the hybrid Bill includes an assessment of the likely significant effects associated with the construction of these interfaces. The operational sound, noise and vibration impacts of running NPR services on sections of the Propose Scheme is assessed as part of the ES and where appropriate, additional mitigation has been included in the scheme.
- 6.5 As NPR interfaces will be authorised through the HS2 Crewe to Manchester Bill their construction will be in accordance with the same environmental controls and policies as the rest of the HS2 construction phase. For instance, the measures contained in the Code of Construction Practice for the Proposed Scheme will apply to the construction of these interfaces as well.
- 6.6 The designs of these interfaces are intended to allow subsequent choices on the precise direction of the NPR routes that will join them to be decided in future.

7 More Information

- 7.1 More detail on the Bill and related documents can be found at www.gov.uk/hs2-phase2b-crewe-manchester.

References

Integrated Rail Plan for the North and Midlands

<https://www.gov.uk/government/publications/integrated-rail-plan-for-the-north-and-the-midlands>