



HIGH SPEED TWO

PHASE 2a INFORMATION PAPER

H4: NATIONAL COLLEGE FOR ADVANCED TRANSPORT AND INFRASTRUCTURE

This paper outlines the vision and focus of the National College for Advanced Transport and Infrastructure (NCATI) and how it will address the skills needs for the HS2 network and the wider rail industry.

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 (West Midlands-Crewe) Bill which is now enacted. It was finalised at Royal Assent and no further changes will be made.

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.

The Helpdesk can be contacted:

by email: HS2enquiries@hs2.org.uk

by phone (24hrs): 08081 434 434
08081 456 472 (minicom)

or by post: High Speed Two (HS2) Limited
2 Snowhill, Queensway
Birmingham
B4 6GA

H4: NATIONAL COLLEGE FOR ADVANCED TRANSPORT AND INFRASTRUCTURE

Introduction

- 1.1. High Speed Two (HS2) is the Government's proposal for a new, high speed north-south railway. The proposal is being taken forward in phases: Phase One will connect London with Birmingham and the West Midlands. Phase 2a will extend the route to Crewe. Phase 2b will extend the route to Manchester, Leeds and beyond. The construction and operation of Phase One of HS2 is authorised by the High Speed Rail (London – West Midlands) Act 2017.
- 1.2. HS2 Ltd is the non-departmental public body responsible for developing and promoting these proposals. The company works to a Development Agreement made with the Secretary of State for Transport.
- 1.3. In July 2017, the Government introduced a hybrid Bill¹ to Parliament to seek powers for the construction and operation of Phase 2a of HS2 (the Proposed Scheme). The Proposed Scheme is a railway starting at Fradley at its southern end. At the northern end it connects with the West Coast Main Line (WCML) south of Crewe to allow HS2 services to join the WCML and call at Crewe Station. North of this junction with the WCML, the Proposed Scheme continues to a tunnel portal south of Crewe.
- 1.4. The work to produce the Bill includes 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)², which set out the environmental and sustainability commitments that will be observed in the construction of the Proposed Scheme.
- 1.5. 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'. The nominated undertaker will be bound by the obligations contained in the Bill and the policies established in the EMRs. There may be more than one nominated undertaker.
- 1.6. 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.

¹ The High Speed Rail (West Midlands – Crewe) Bill, hereafter 'the Bill'.

² For more information on the EMRs, please see Information Paper E1: Control of Environmental Impacts.

2. Overview

- 2.1. This information paper outlines the vision and focus of the National College for Advanced Transport and Infrastructure (NCATI) and how it will support HS2 in addressing skills needs in the supply chain.
- 2.2. The NCATI is an independent further education college incorporated under Section 16(1)(a) of the Higher and Further Education Act 1992.
- 2.3. To date, the college has been funded by the UK Government, the Department for Education, the Department for Transport, the Education and Skills Funding Agency, HS2 Ltd, Birmingham City Council, Doncaster Council, Greater Birmingham & Solihull LEP, Sheffield City Region LEP and West Midlands Combined Authority.
- 2.4. The college opened its doors to learners at its Doncaster and Birmingham campuses in autumn 2017.

3. Vision

- 3.1. The vision for the NCATI is to pioneer technical excellence, and the mission is to produce a new generation of highly-skilled professionals to lead Britain's future rail industry, and to create a talent pipeline from which employers and industry can recruit.
- 3.2. The college delivers higher level technical qualifications (level 4 and above) that aim to attract a more diverse workforce to the rail sector, and it fosters innovation, science and technology to transform the image of the rail industry.
- 3.3. The college offers cutting-edge technical and professional courses to learners aged 18 and over who are starting a career in rail infrastructure, looking to switch careers, or who are part of the existing workforce. The college offers a viable, employment-focused alternative to university to produce a new, diverse generation of high-tech engineers and technicians, teaching them the wider skills they will need as rail professionals, such as problem solving, commercial awareness and the ability to lead and motivate.
- 3.4. The college also focuses on inclusion, on working in partnerships, on aiming for excellence by innovating and challenging the norm, and by making sure everyone is healthy, safe and supported at all times.
- 3.5. The NCATI delivers to a hub and spoke model. In practice, this means developing new training facilities that are not currently available in the UK, whilst maximising the use of existing industry-standard facilities through a network of providers.



Figure 1.1 Birmingham Campus

The skills challenge

- 3.6. The demand for trained labour within the rail industry is driven by an ageing workforce and new railway infrastructure projects. It was anticipated that a quarter of all rail industry retirements between 2013 and 2017 will be of highly skilled labour (level 4 qualified). In projecting these figures forward, between 2017 and 2022 a further 11,400 people would be lost from the workforce, one-third of whom could be at level 4. This is further compounded by a wider range of infrastructure projects - relating to science, technology, engineering and mathematics - that will be competing for the same higher-skilled labour force. The ongoing investment in existing railway infrastructure and major projects such as HS2, and other possible future rail infrastructure projects in London and across the UK, will put a focus on new skill sets that do not currently exist within the UK job market.
- 3.7. HS2 will require a greater proportion of workers with level 4 qualifications (26%) than currently pertains in the industry (16%).
- 3.8. The workforce will require individuals who have the knowledge and understanding to work with the emerging and future technologies in the industry, such as digital signalling, high speed track and technologically advanced rolling stock.

Curriculum

- 3.9. Extensive consultation has taken place with a wide range of employers to support the college in developing a curriculum that addresses skills needs. The college offers apprenticeships and higher education courses (currently including Cert HE, Foundation Degree & BSc) and equivalents, starting at Level 4 (post A-level). Shorter courses are also available, including continuous professional development units in a variety of disciplines. The college also offers leadership and management courses tailored to the high speed rail industry.

- 3.10. Working in partnership with the college, a group of more than 30 employers formed an Apprenticeship Trailblazer group to develop a brand new apprenticeship standard in High Speed Rail and Infrastructure, which is now delivered at the college.
- 3.11. The High Speed Rail and Infrastructure curriculum looks to develop skills, knowledge and personal attributes across the breadth of the high speed rail and transport infrastructure industries, so participants get a broad and deep understanding.
- 3.12. The High Speed Rail and Infrastructure curriculum comprises a 12-week core programme that all learners must complete before progressing on to a specialist pathway. It focuses on the key attributes and knowledge needed in the industry, regardless of the specialist discipline followed, and includes aspects such as health, welfare, safety & security, service design, asset management, sustainability and project management. On completion of the core, a learner selects a specialist pathway to follow to achieve the detailed skill base and competency level needed for their individual job role. There are seven options available: civil engineering; track; systems engineering; command, control and communications; power; rolling stock; and operations.

Level 3	Level 4	Level 5	Level 6+
Access to Higher Education (Engineering) Diploma	Certificate of Higher Education in High Speed Rail and Infrastructure	Foundation Degree in High Speed Rail and Infrastructure	BSc in High Speed Rail and Infrastructure
Level 3 Apprenticeship in Train Driving	Apprenticeship in High Speed Rail and Infrastructure	Apprenticeship in Rail Engineering	Apprenticeship in Rail Engineering (Degree)
	Apprenticeship in Rail Engineering	Apprenticeship in Operational and Departmental Management	Apprenticeship in Rail Engineering (Masters)
	Apprenticeships in Associate Project Manager		

Figure 1.2 NCATI Apprenticeship and HE offer

- 3.13. The High Speed Rail and Infrastructure curriculum is delivered through a blend of guided learning and project-based/virtual learning, so that soft skills are developed along with academic ability. Real project scenarios will be used to ensure learners are addressing issues that they are likely to come across within the workplace.
- 3.14. In addition to the 'flagship' High Speed Rail and Infrastructure apprenticeship, the college also offers Rail, Project Management Operations/Departmental Manager apprenticeship standards within its portfolio

Ensuring routes into employment

- 3.15. From the buildings it occupies, to the curriculum delivered and wider services offered to learners and employers, the college is designed to ensure that

individuals are employment-ready by the end of their study. This will be achieved by:

- every learner having an employer mentor during their time at the college;
- industry experts coming to the college to teach and provide masterclasses to students and alumni;
- a brokerage service being offered so that employers can fill vacancies from a pool of talent
- learners being assisted into appropriate learning and training opportunities; and
- ensuring that one-third of learners' time is spent in high-quality, assured work placements, and that the curriculum is delivered in a way that embeds workplace approaches.



Figure 1.3 Doncaster Campus

4. More information

- 4.1. More information on the NCATI can be found at www.ncati.ac.uk
- 4.2. More detail on the Bill and related documents can be found at www.gov.uk/HS2