

Open Letter to:

ref L30

High Speed UK
Connecting the Nation

www.highspeeduk.co.uk

Mr David Porter,
President, Institution of Civil Engineers
1 Great George Street
London SW1P 3AA

20 Hartley Road
Harrogate
HG2 9DQ

11th March 2026
07591 959134

Dear Mr Porter,

I write in connection with a) my letter dated 10th September 2021 to (then) ICE President Rachel Skinner, and b) the response on her behalf, dated 28th September 2021, by (then) ICE Director General Nick Baveystock.

The principal point of my letter, aside from raising critical concerns as to the ICE's historic and continuing involvement with the HS2 project, was to warn that the predication of the forthcoming Integrated Rail Plan upon the deeply-flawed HS2 would fatally compromise national railway network performance. This would prevent HS2's promise¹ of "hugely enhanced capacity and connectivity" between the UK's major conurbations from ever being realised; in turn, this would make the national public policy goal of a Levelled-up, Net Zero economy impossible to achieve.

Notwithstanding the multiple twists and turns in Government transport policy over the past 4 years², the concerns that I raised in 2021 are now broadly endorsed by the principal railway projects detailed in the present Government's *Northern Growth Strategy*³, launched on 14 January 2026:

- **Midlands – North-West Rail Link** (MNWRL) – a lower-speed version of HS2 Phases 2a/2b, following the same route and linking HS2 Phase 1 near Lichfield to...
- The new **Liverpool-Manchester Railway** – effectively, the western half of **Northern Powerhouse Rail** (NPR), a low-speed route running from Liverpool to Warrington Bank Quay and following the circuitous route previously selected for the HS2 spur to Manchester Airport and Manchester Piccadilly, with an onward connection to...
- **Yorkshire's Plan for Rail** – essentially a rebranding of previous **Northern Powerhouse Rail** initiatives in Yorkshire, launched in May 2025 by the Yorkshire Mayors and Lord Blunkett.

Despite the persuasive logic and linkage in the MNWRL and NPR schemes now proposed, our analysis⁴ confirms their extraordinarily poor performance, either as individual railways, or as core elements of a fully integrated regional or national network.

¹ "The aim of the HS2 project is to deliver hugely enhanced capacity and connectivity between our major conurbations". Evidence by HS2 Ltd Technical Director Andrew McNaughton to HS2 Select Committee, 30/11/15.

² The timeline of HMG's *Integrated Rail Plan* (2021), cancellation of HS2 Phases 2a/2b (2022/2023), and launch of the *Northern Growth Strategy* (January 2026), together with relevant ICE initiatives, is set out in **Appendix A**.

³ <https://www.gov.uk/government/publications/northern-growth-strategy-case-for-change>

⁴ Comparative analysis of MNWRL & NPR performance against HSUK is set out in draft letters reference **L32** and **L33**, see <http://highspeeduk.co.uk/letters.html>.

The MNWRL and NPR schemes exhibit several deeply concerning common flaws:

- Both schemes are based, to a greater or lesser extent, upon the failed original HS2 concept of a 'tree' of stand-alone high speed routes, spreading north from London, and offering no meaningful integration with the existing network, and no effective interregional links.
- There is no recognisable process of design and optimisation, whereby gains in connectivity, capacity and network performance would be measured and maximised, with options selected accordingly, to achieve the greatest economic and environmental benefits.
- No indication is given, of how the proposed interventions would integrate with the existing railway system, to deliver optimum overall network performance.
- Notwithstanding the absence of due process and optimisation, or consideration of overall network performance, the promoters of these schemes still make unsustainable and unfeasible claims of huge economic gains, broadly equivalent to full Levelling-up of the respective regional economies.
- There has been no worthwhile consideration of alternative schemes that might better interconnect the UK regions – the central purpose of both MNWRL and NPR.

All these critical flaws will make it impossible for Levelling-up and Net Zero, not to mention the present Government's own Growth Agenda (as exemplified by the recently launched *Northern Growth Strategy*), ever to be achieved.

I believe that Levelling-up and Net Zero are fundamental concerns of public good and regard for the environment, which the ICE is bound by its Royal Charter, and its Members similarly bound by their Rules of Professional Conduct, to uphold. The Government is also committed to these goals as core public policy, and it is crucial that the Government is held to these goals as it develops its Growth Agenda.

My current concern is to ensure that:

- a) The mistakes of the past – which appear to leave the ICE in breach of its own Royal Charter⁵ – are not repeated.
- b) The Institution of Civil Engineers gains the proper understanding of railway network design as an engineering discipline in its own right. Without this necessary understanding, the ICE cannot provide reliable and impartial advice to Government in the crucial matter of rail network development.
- c) National rail network development is taken forward in an optimal manner at the core of a broader UK Integrated Transport Strategy⁶ (**UKITS**), in order to bring about the best possible public transport network for the people of the United Kingdom.

A UK-wide Integrated Transport Strategy is plainly vital, if the national economy is to grow in an inclusive and sustainable way. This Strategy must be developed in a rational and

⁵ My views on the ICE's obligation to demonstrate technical leadership i.e. the promotion of best practice in railway network design to ensure the greatest public good, are supported by my detailed review of the requirements of the current ICE Royal Charter, as set out in **Appendix B**.

⁶ My concept for a rail-based UK Integrated Transport Strategy (**UKITS**) is set out in **Appendix C**.

structured manner, with a logical hierarchy of needs, to achieve the required optimal outcomes; particularly important are:

- the formulation of Core Transport Objectives⁷ to define the **UKITS** functional and geographic scope, to harmonise with existing official strategies and to establish the required overarching vision of a better-connected nation;
- the selection of an Exemplar Scheme to:
 - a) demonstrate that this overarching vision is feasible;
 - b) mobilise public support; and
 - c) provide a benchmark against which competing initiatives can be judged.

I believe that our High Speed UK (HSUK) initiative, with its Network North and Midland Ring regional modules, stands as the only substantive Exemplar Scheme that is even remotely capable of meeting the 6 Core Transport Objectives. Please be assured that HSUK is no 'felt-tip' project; it is supported by:

- the design (to 1:10,000 scale) of well over 1,000km of new, restored and upgraded railway;
- the development of bespoke integrated infrastructure solutions for all existing primary network hubs, to demonstrate how all principal UK cities can enjoy transformed high speed intercity services *and* a step-change improvement in local services;
- the formulation of a 'Demonstrator Timetable' to define indicative service patterns across the enhanced network and allow the calculation of achievable journey time reductions.

I am confident that this design effort far surpasses, in both detail and scope, anything so far undertaken for either HS2, Northern Powerhouse Rail or the Government's *Union Connectivity Review*⁸. For further information please refer to www.highspeeduk.co.uk.

I would additionally comment that a UK Integrated Transport Strategy based upon the HSUK initiative would appear to meet all the key aspirations set out in the ICE's 2023 Policy Position Statement *A national transport strategy for England*, and in its current *Enabling Better Infrastructure* policy programme. HSUK provides the substance to flesh out the "overarching vision for transport" that the ICE is seeking, and it demonstrates the huge advantages in network performance that can be gained if the network is holistically planned from the outset (unlike HS2, Northern Powerhouse Rail, Integrated Rail Plan *et al*).

The dangers of proceeding with no holistic network strategy should hopefully be self-evident; and the dire consequences are readily apparent in the demonstrably poor performance of the various schemes that the Government has misguidedly adopted. All this has happened on the advice and assurance of a variety of ill-informed transport professionals, including many prominent ICE Members and Fellows.

⁷ Refer to Core Transport Objectives (CTOs) 1-6 as laid out in **Appendix C**.

⁸ *Union Connectivity Review*, Department for Transport, November 2021.

Overall, I would comment that the deeply-flawed thinking behind these schemes, on the part of the professionals responsible for their development, is broadly equivalent to the 'Politicians' Syllogism' made famous in the *Yes Minister* comedies of the 1980's:

- We've got to do something.....
- This is something.....
- Let's do it!!

In the coming weeks, HSUK will be raising critical challenges to the promoters of the **Midlands – North-West Rail Link** and **Northern Powerhouse Rail** schemes, with Freedom of Information requests designed to expose the catastrophic failures of process that have taken place.

All such correspondence (including our supporting letter to the Prime Minister) will of course be copied to the ICE. I trust that you – as President of the primary professional institution responsible for developing the nation's built transport infrastructure – will fully support us in this challenge.

Noting the substantial time and resources that the ICE has devoted over many years to the now-failed HS2 project (and doubtless will soon devote to the present Government's *Northern Growth Strategy* initiative), I would request that the ICE accord a similar level of scrutiny to the HSUK initiative, which currently stands as the only substantive vision for an integrated, enhanced and hopefully optimised national railway network.

HSUK not only constitutes the 'Exemplar Scheme' from which the definitive network vision can be established; in a more immediate sense, it also identifies the necessary clear corridors for new railway construction that must be preserved from extraneous development⁹. And in the absence of any effective oversight from the responsible governmental authorities, who plainly lack the power, the fundamental competence and the necessary impartiality to exercise this oversight, I believe that it falls upon the Institution of Civil Engineers, and its individual members, to take the steps necessary to ensure that the people of the UK get the railway network that they need and deserve.

I believe that you are visiting the Yorkshire & Humber region on 19th March, and I trust that it will be possible for us to meet, to discuss these matters further.

Yours sincerely,

Colin Elliff BSc CEng MICE,
Civil Engineering Principal, High Speed UK

⁹ I am currently attempting to engage with appropriate authorities (Local Authorities, regional Metro Mayors and respective Combined Authorities, Transport for the North and Network Rail); here I would invite you to review ongoing correspondence on <http://highspeeduk.co.uk/letters.html> specifically letters **L10 – L29**. Regrettably, I must note that I have yet to receive a single response which takes my concerns remotely seriously – **concerns that are now greatly exacerbated by emerging commercial and residential development proposals which threaten to block economically- and environmentally critical corridors for new railway development.**

APPENDIX A

High Speed Rail Timeline (2021 to 2026) and Current ICE Involvement

A review by Colin Elliff BSc CEng MICE, Civil Engineering Principal, High Speed UK

Since writing¹⁰ to the ICE President in 2021, the following significant events have occurred:

1) November 2021 : Publication of (Previous) Government's Integrated Rail Plan

The published *Integrated Rail Plan* (IRP) comprised the project elements that were commonly anticipated, on which I had based my comments in my 2021 letter to ICE President Rachel Skinner. Over the following year (2022) I undertook a detailed analysis of the IRP's national network performance, with HS2 and other principal schemes such as Northern Powerhouse Rail and Midlands Rail Hub in place. This analysis is written up in my report *Dissecting the Integrated Rail Plan*, available for review as document **A16** on <http://highspeeduk.co.uk/reports.html>.

Dissecting the Integrated Rail Plan was informed by a parallel analysis of the High Speed UK Exemplar Alternative, designed to radically different principles of full integration and optimised network performance, and it confirmed the IRP's huge deficiencies as a national network. These deficiencies were primarily attributable to the IRP's predication upon HS2, which was of course designed with no serious consideration of national network or integration.

2) November 2021 : Publication of Government's Union Connectivity Review

The November 2021 publication of the *Integrated Rail Plan* (IRP) – which ostensibly addressed the connectivity needs of just the Midlands and the North of England – was accompanied by the publication of the Final Report¹¹ of the *Union Connectivity Review*. The *Union Connectivity Review* had a much broader remit – to address connectivity issues between the 4 Nations of the United Kingdom – and its primary recommendation was for the establishment of **UKNET**, a strategic pan-UK transport network.

It should be noted that the *Union Connectivity Review* was a 'high-level' study, setting out aspirations for improved connectivity, rather than detailed recommendations for new routes.

UKNET's broad network performance is also covered in HSUK document **A16** *Dissecting the Integrated Rail Plan*.

3) October 2023 : Cancellation of HS2 Phases 2a/b

Notwithstanding my findings as to its technical inadequacies, the Integrated Rail Plan could still be presented politically as the culmination of the HS2 project, and as the plan which – if implemented in full – would deliver the promised transformational economic and environmental gains. But with the Sunak Government's cancellation of HS2 Phases 2a/b in October 2023, the Integrated Rail Plan lost any credibility as a national transport scheme.

This left a yawning void at the heart of Government, effectively a transport 'policy vacuum'. Without the northern phases of HS2, there could be no credible Integrated Rail Plan; and with no credible Integrated Rail Plan, there could be no means of delivering the step-change gains in network connectivity and capacity necessary for Levelling-up and Net Zero.

¹⁰ See letter reference **L05** to ICE President Rachel Skinner dated 10/09/2021, <http://highspeeduk.co.uk/letters.html>

¹¹ *Union Connectivity Review*, Department for Transport, November 2021

4) March 2024 : Publication of Transport for the North's *Strategic Transport Plan*

The 2024 *Strategic Transport Plan* (STP)¹² was (and as of 11 March 2026, still is) the latest in a long series of Transport for the North (TfN) documents which set out the official vision for a transformed transport system in the North of England, with Northern Powerhouse Rail at its heart. This 'vision' of ill-defined infrastructure projects was little changed from previous iterations, and the findings of *Dissecting the Integrated Rail Plan* as to its poor network performance – either regionally or nationally – still broadly apply.

Perhaps the most significant development in the 2024 *Strategic Transport Plan* was its bold claim for £118 billion of additional annual GVA benefits, that its proposed interventions (primarily Northern Powerhouse Rail) could bring about. Given the STP's huge connectivity deficiencies and limited geographic scope, this level of economic benefit – equivalent to full 'Levelling-up' of the Northern economy – seemed an extraordinary claim.

My review of the *Strategic Transport Plan* and its supporting document, the *Northern Powerhouse Independent Economic Review*¹³ indicates a deeply concerning conclusion. The finding of £118 billion economic benefit cannot be based upon an actual detailed Northern Powerhouse Rail scheme, because no such scheme appears to exist, in any substantive form; instead, the £118 billion claim seems to be based upon the theoretical ideal of a fully and optimally connected North.

This effectively reduces the *Northern Powerhouse Independent Economic Review* to nothing more than an academic exercise, the quantification of the benefits that might come about from an ideally connected Northern Powerhouse; and it raised massive concerns as to the conduct of transport professionals within Transport for the North, who have consistently claimed the £118 billion annual GVA benefits as justification for their own specific proposals.

5) September 2024 : HS2 Phases 2a/2b Rebrand as Midlands – North-West Rail Link

The Midlands–North-West Rail Link (MNWRL) initiative was launched as a lower-speed alternative to HS2 Phase 2a/2b, but following the same original HS2 route for the full route length from HS2 Phase 1 at Lichfield to its Manchester Piccadilly terminus. The MNWRL is projected to join the 'Liverpool-Manchester Railway' (see **6**) below) at High Legh, south-west of Altrincham.

6) May 2025 : NPR (west of Manchester) Rebrand as Liverpool-Manchester Railway

The western (Manchester to Liverpool) element of Northern Powerhouse Rail was relaunched by the Liverpool-Manchester Railway Board (LMRB) as the 'Liverpool-Manchester Railway'. This is projected to incorporate the HS2 Manchester Spur (see **5**) above), with an onward route from High Legh to Liverpool; this would mostly follow the underused 'Garston-Timperley' freight route via Warrington Bank Quay, with a new 'Liverpool Gateway' station near Widnes, and with connecting routes to Crewe, Chester and North Wales branching off at Warrington.

7) May 2025 : Yorkshire's Plan for Rail

Simultaneous with the launch of the 'Liverpool-Manchester Railway' (see **6**) above), the Yorkshire element of Northern Powerhouse Rail was relaunched as 'Yorkshire's Plan for Rail'. This is projected to incorporate significant sections of new-build route (from Manchester Piccadilly to Marsden, and from Huddersfield to Bradford; but major lengths will comprise sections of Transpennine Main Line already upgraded for the Transpennine Route Upgrade project.

¹² <https://www.transportfornorth.com/our-north/strategic-transport-plan/>

¹³ <chrome-extension://efaidnbmnnnibpcjpcglclefindmkaj/https://transportfornorth.com/wp-content/uploads/Economic-Scenarios-for-the-NPIER-Final-Report-for-Publishing.pdf>. These concerns are documented in detail in HSUK letter to Northern Mayors reference **L32**.

8) January 2026 : (Present) Government's Northern Growth Strategy, with Announcement of Northern Powerhouse Rail and Birmingham-Manchester Link

After its election in July 2024, the new Labour Government showed little inclination to address the HS2/IRP 'policy vacuum' (caused by the previous Government's cancellation of HS2 Phases 2a/2b), either by reinstating cancelled sections of HS2, or by any other internal transport initiative¹⁴.

However on 14 January 2026, the situation dramatically changed, with the launch of the Government's *Northern Growth Strategy*¹⁵, restarting the Northern Powerhouse Rail project, and adopting the Midlands–North-West Rail Link as a lower-speed alternative to HS2 Phases 2a/2b. The result is a Government plan for transport little changed from the 2021 *Integrated Rail Plan*.

The Priority for the Institution of Civil Engineers

The Institution of Civil Engineers must be able to provide appropriate advice to the Government, to ensure that its chosen policy, of transforming rail links between the UK regions, can be effectively translated into reality. This demands professional, well-designed schemes capable of bringing about the desired efficient, comprehensive and fully integrated transport system, with an optimised railway network capable of optimally connecting the UK regions; and the ICE must provide the 'intellectual infrastructure' to enable this transformation to happen.

ICE Policy Position Statement *A national transport strategy for England* (2023)

It is plainly necessary that a coherent strategy is put in place to guide the development not only of the UK's rail network, but also its wider public transport system. I am pleased to note that the ICE was moving towards this position, even before the cancellation of HS2, with its publication (in July 2023) of its Policy Position Statement *A national transport strategy for England*¹⁶.

I have reviewed this Statement, and although I broadly support its recommendations, in particular its call for a national transport strategy with an "overarching vision of a sustainable transport network" and a "vision-led approach", I am concerned that the Statement:

- does nothing to define what this "overarching vision" might be, other than asserting that it should comprise a "network" and an "integrated, multimodal and sustainable... transport system";
- does nothing to establish appropriate technical standards, for instance in the design and optimisation of integrated railway networks, to ensure that the resulting transport system will best serve the public;
- devolves responsibility for developing the 'overarching vision' upon the Department for Transport, an organisation which over the 16-year lifespan of the HS2 project has displayed no competence or even interest in the design and development of HS2 as a network;
- appears to be too concerned with forming the national transport strategy to suit the byzantine and failing bureaucracies that currently dictate transport policy, within England alone. Instead the focus should be upon defining what this policy 'vision' should look like on a UK-wide basis, and providing appropriate advice to Government and its supporting bureaucracies (irrespective of their precise configuration and geographical remit) to ensure that this vision comes about.

¹⁴ The Government's plans to expand Heathrow, although deeply regressive, have only marginal relevance to the development of either an Integrated Rail Plan, or a broader UK Integrated Transport Strategy.

¹⁵ <https://www.gov.uk/government/publications/northern-growth-strategy-case-for-change>

¹⁶ <chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ice.org.uk/media/ykmho1ur/ice-policy-paper-a-national-transport-strategy-for-england-final.pdf>

Critical Competence Concerns

I believe that it is futile to rely upon the Department for Transport, or indeed any arm of Government or the wider transport establishment, to develop the required 'overarching vision'. They are too compromised by the mistakes of the past, and too lacking in the necessary competence in, or understanding of, the design and optimisation of railway networks.

At this point in time, the same criticism can be levelled at the Institution of Civil Engineers, and (as noted in **Appendix B**) I consider that this critical lack of competence and/or understanding leaves our Institution in fundamental breach of its own Royal Charter.

It is particularly concerning to note the claims that the ICE makes for itself. One of its latest publications¹⁷ includes the following statement:

"The Institution of Civil Engineers (ICE) is a 97,000-strong global membership organisation with over 200 years of history. It is a centre of engineering excellence, qualifying engineers and helping them maintain lifelong competence, assuring society that the infrastructure they create is safe, dependable and well designed.

Its network of experts offers trusted, impartial advice to politicians and decision-makers on how to build and adapt infrastructure to create a more sustainable world."

When viewed through the lens of the UK high speed rail project (in which many prominent ICE members have been involved, through its full 17-year duration), most of the claims contained in this statement are plainly and demonstrably false.

The Imperative for the Institution of Civil Engineers

The ICE must act urgently to gain the necessary understanding of the discipline of railway network design, so that it can demonstrate the technical leadership that its Royal Charter, and its own publicity, demand. It should:

- understand the full extent of the network failures of established proposals, in particular HS2;
- recognise that a railway network is a design entity in its own right;
- insist that this network, and in particular its connectivity and capacity attributes, are designed and optimised in accordance with conventional quantified standards (as might be expected for a railway underbridge or a station trainshed roof);
- establish the Core Transport Objectives for a putative 'UK Integrated Transport Strategy'.

But most of all, as an organisation primarily devoted to serving the public interest, the ICE must investigate and promote alternative schemes which – unlike HS2, Northern Powerhouse Rail, Northern Growth Strategy *et al* – are capable of delivering the transformed network that the UK unquestionably needs.

Colin Elliff BSc CEng MICE

Civil Engineering Principal, High Speed UK

¹⁷ *Enabling Better Infrastructure*, Institution of Civil Engineers, 2025

APPENDIX B :

The ICE Royal Charter : An Obligation to Demonstrate Technical Leadership and Promote Best Practice in Railway Network Design

A review by Colin Elliff BSc CEng MICE, Civil Engineering Principal, High Speed UK

Source Documents:

ICE Royal Charter: <https://www.ice.org.uk/download-centre/royal-charter-and-by-laws>

ICE Code of Professional Conduct: <https://www.ice.org.uk/download-centre/code-of-conduct>

Objective of the Institution of Civil Engineers

The Royal Charter (Item 3) defines the objective of the Institution of Civil Engineers as follows:

“The object for which the Institution is constituted is to foster and promote the art and science of Civil Engineering.”

It can reasonably be presumed that “...foster and promote...” implies the encouragement of best practice through the gaining of knowledge, the setting of training and performance standards, and the achievement of optimal outcomes. This clearly relates to the ICE’s present role as a ‘Learned Society’.

This is supported by the First Preamble to the Royal Charter (i.e. the first ‘WHEREAS’ statement on the first page) which defines the Institution’s purpose as follows:

“...for the general advancement of Mechanical Science, and more particularly for promoting the acquisition of that species of knowledge which constitutes the profession of a Civil Engineer...”

An Imperative for the ‘Scientific Method’

It can also be reasonably presumed that the definition of civil engineering as a “science” implies the general use of the ‘scientific method’, whereby design decisions are based upon a rational and quantified process aimed at attaining the requisite optimal outcome.

This presumption is supported by the Second Preamble to the Royal Charter (i.e. the second ‘WHEREAS’ statement on the first page) which states a requirement for Civil Engineers to possess:

“...a high degree of professional knowledge and judgment in making the best use of scarce resources in care for the environment...”

The Royal Charter’s Fundamental Public Service Obligation

The Second Preamble also emphasises the key role that Civil Engineers play in public life:

“...many important and public and private works and services in the United Kingdom and overseas which contribute to the wellbeing of mankind are dependent on Civil Engineers...”

This stands as the founders’ (i.e. Thomas Telford *et al*) primary justification for petitioning for a Royal Charter, and it defines the ICE’s continuing obligation to serve the public interest.

An Obligation to develop Networks to promote Trade

The First Preamble gives a variety of definitions of Civil Engineering, including the construction of "...roads, bridges, aqueducts, canals, river navigation and docks...", also "...ports (and) harbours", all for the stated purpose: "...as the means of...traffic...for external and internal trade...". It is clear from these definitions (all of which revolve around the core issue of transport) that the ICE's founders saw the role of civil engineering as more than simply the construction of individual roads, bridges, aqueducts, canals and ports (*inter alia*). These individual projects could only promote trade if they worked collectively and efficiently as a system i.e. the network of canals that existed by 1828.

Railway Network Design also covered by Royal Charter

There is a clear logical extension, from canal networks to railway networks. If canals must operate not as individual canals, but as a network extending to ports, in order to promote trade, so too must railways form a network to efficiently interconnect communities and thereby optimise connectivity and facilitate trade, from which environmental and economic benefits naturally flow.

And while it might be argued that railways were not included in the Royal Charter's listing of typical civil engineering projects, this absence can be easily explained by the 1828 date of the granting of the ICE's Royal Charter – 2 years before the 1830 opening of the Liverpool & Manchester Railway, generally accepted to be the world's first major interurban railway. (The same point of course applies for airports, motorways, reservoirs, power grids etc.)

No Mention of Government Involvement in Royal Charter

It is significant to note that the ICE Royal Charter makes no mention of any role for the Government in the day-to-day functioning of the Institution. It can therefore be inferred that while a close relationship with Government might be desirable for a multitude of reasons, this involvement must be subservient to the ICE's fundamental role as a technical Learned Society dedicated to the "art and science of Civil Engineering". The ICE's priority must be to 'speak truth to power', if that is necessary to fulfil its stated Royal Charter obligations.

Conclusions

It is thus reasonable to conclude that:

- Railway networks fall logically within the scope of the ICE's Royal Charter.
- In addition to ensuring that individual railway elements (i.e. lines, bridges, stations) must function efficiently, to rational and quantifiable criteria, specifiers and designers must also ensure that these elements function efficiently in the context of the wider network.
- As dictated by Rule 2 of the ICE Code of Professional Conduct, specifiers and designers (and the organisations in which they work) must possess the necessary competence in railway network design. Only with this competence can they possibly satisfy Rule 3 (full regard for the public interest) and Rule 4 (due regard for the environment).
- As with other relevant engineering disciplines, the ICE must "foster and promote" railway network design as a key aspect of the "art and science of Civil Engineering". This does not necessarily demand competence in the relevant technical detail; but it does demand an awareness of the key issues of railway network design, so that the ICE can oversee the process, and ensure that those engaged in design and execution are competent to do so.
- The ICE is fundamentally a technical Learned Society, working to core public interest imperatives as defined in its Royal Charter. If necessary it must 'speak truth to power' regardless of any consideration of short-term loss of favour and influence.

Potential Implications for ICE Royal Charter

It is pertinent to note that under the Fourth Preamble (i.e. the first 'WHEREAS' statement on the second page) the ICE makes the claim that it has consistently fulfilled the main object of its Royal Charter, as it has "fostered and increased the knowledge of the art and science of the profession of Civil Engineering". This is offered to the Sovereign as a primary justification for the maintenance/renewal of the Charter.

The corollary of this claim is that if, during its 17-year engagement with the HS2 project, the ICE has not properly "fostered and increased the knowledge of the art and science of the profession of Civil Engineering" in the specifically relevant field of railway network design, it would appear to be in fundamental breach of its own Royal Charter.

Colin Elliff BSc CEng MICE

Civil Engineering Principal, High Speed UK

APPENDIX C :

No Plan for UK Transport : The Need for a UK Integrated Transport Strategy (UKITS)

A paper by Colin Elliff BSc CEng MICE, Civil Engineering Principal, High Speed UK

Summary

The launch on 14 January 2026 of the Government's *Northern Growth Strategy* represents an unmissable opportunity to address the transport 'policy vacuum' (as noted in **Appendix A**) which has critically imperilled national public policy objectives for Levelling-up and Net Zero. This paper proposes:

- the formulation of a UK Integrated Transport Strategy (**UKITS**);
- the establishment of 6 Core Transport Objectives (**CTOs**) to guide the development of **UKITS**;
- the development of an optimised **UKITS** Exemplar Project to:
 - a) demonstrate the feasibility of the 6 **CTOs**;
 - b) offer a vision for a better-connected United Kingdom; and
 - c) provide a benchmark against which other prospective schemes can be judged.

Implications of 2023 Cancellation of HS2 Phases 2a/2b

The cancellation of Phases 2a/2b of the HS2 project (announced in October 2023 by the previous Sunak Government) effectively rendered the 2021 *Integrated Rail Plan* meaningless as any sort of national transport strategy. That in turn left the entire United Kingdom with no credible plan for the development of its strategic rail network, or of its wider transport system.

Transport 'Policy Vacuum' precluding Levelling-up and Net Zero

The lack of any credible plan created a critical 'policy vacuum' in which all the public policy goals dependent upon an efficient and optimised national transport system could no longer be achieved:

- a) **The environmental goal of Net Zero transport emissions** This relies upon step-change road to rail modal shift, which can only happen with transformational improvements in rail network connectivity and capacity.
- b) **The economic goal of a Levelled-up, expanded economy** This again relies upon transformed rail network connectivity and capacity, particularly to improve interregional links and remedy existing London-centricity, and thereby unlock over £100 billion potential gains in annual GDP/GVA¹⁸.
- c) **The social goal of Universal Good-Quality Public Transport** This relies upon a comprehensive national public transport system, fully integrated across all modes.

These public policy 'drivers' have emerged since the original inception of HS2, and the Government's recent launch of its *Northern Growth Strategy* represents an unmissable opportunity for a much-needed reset. The outcome should be an overarching 'UK Integrated Transport Strategy' (**UKITS**), fully aligned with contemporary public policy, to guide the optimal development of the UK's rail and wider transport system, and enable the necessary step-change improvements in network connectivity and capacity.

¹⁸ Transport for the North's *Strategic Transport Plan* claims £118bn additional GVA for a Levelled-up North.

Key Features of a UK Integrated Transport Strategy

A UK Integrated Transport Strategy must, by definition, address the needs of all UK residents, regardless of location. Its default assumption is that public transport is preferable to private transport, on account of public transport's lower overall cost and environmental impact, and its greater social inclusivity; wherever practicable, the use of public and personal transport (i.e. bus and rail, augmented by walking and cycling) should be promoted above the private car.

A UK Integrated Transport Strategy should embody the following key features:

- **An Ambition for Transformational Change** The scale of the challenge, to develop a national transport system capable of delivering national environmental, economic and social goals, must not be underestimated. The challenge cannot be met merely with upgrades to the existing railway network (or other transport systems); it can only be met with transformational new-build interventions.
- **A UK-wide Geographic Scope, requiring a Multi-modal Integrated System, based upon a Core Rail Network** It must be recognised that rail constitutes the optimum single mode for only a small proportion of journeys across the UK. This is especially true for journeys in rural areas, and across the Irish Sea to Northern Ireland. This therefore demands that the UK Integrated Transport Strategy is fully multi-modal. Rail however offers the key advantage of an established high-speed, high-volume technology, uniquely capable of meeting the step-change scale and broad geographic scope of the challenge. It would form the core skeleton of the overall network, supplemented by local bus links and (where appropriate) inter-island aviation.
- **Modular Development of New-Build, Restored and Upgraded Railways** It is neither practicable, desirable nor cost-effective to build a new isolated railway system (as exemplified by HS2), segregated from the existing, and comprising huge lengths of new line which must be completed in their entirety before any benefit can be gained. Considerations of cost control, scope flexibility and utility to the widest possible population dictate an alternative philosophy – a 'blended' integrated solution completed in smaller, more dispersed modules, with new-build higher speed lines and restored lines complementing upgrading of the existing rail system. This will deliver superior outcomes in shorter timescales.
- **The Goal of an Optimised Network** While construction activities might be focused upon building individual railway lines and stations, it must be recognised that these are only small elements of a much broader system – the transformed national rail network (and overall national transport system) that comprises the true goal, and provides the justification for the spending of triple-digit billion-pound sums of public money.
- **Adoption of the 'Scientific Method'** A rigorous design process, directly aimed at achieving the best-connected and highest-capacity transport system, and capable of offering best value for the people of the UK, is imperative. This demands a quantified engineering approach, first to assess and measure network connectivity and capacity, and then to optimise overall network performance against the following 6 Core Transport Objectives (CTOs).

6 Core Transport Objectives for a UK Integrated Transport Strategy

A UK Integrated Transport Strategy should be scoped to address the following Core Transport Objectives (all of which align closely with established official transport strategy, as set out in footnotes):

1. **National:** *All UK primary cities (i.e. London, Birmingham, Nottingham, Sheffield, Manchester, Liverpool, Leeds, Newcastle, Edinburgh, Glasgow, Cardiff, Bristol) should be interlinked with frequent (i.e. hourly or better) and direct (i.e. no change of trains) services.*¹⁹ To enable 'there and back in a day' travel, and also to compete effectively with Anglo-Scottish aviation, journeys between primary cities should generally not exceed 3-4 hours²⁰.
2. **Regional:** *Within individual UK regions, all principal communities, including the primary regional airport, should be directly interlinked.* For the Northern Powerhouse, these principal communities might comprise Liverpool, Preston, Warrington, Manchester, Sheffield, Bradford, Leeds, Hull, York, Darlington and Newcastle, all linking to Manchester Airport. For the Midlands Engine, these principal communities might comprise Birmingham, Walsall, Wolverhampton, Stoke, Derby, Nottingham, Leicester, Coventry, all linking to Birmingham Airport. These journeys should also meet any locally-set specification²¹ for journey time and service frequency specification.
3. **Local:** *Development of local networks should be harmonised with regional and national network development*, with the ideal of a) local, regional and national services being integrated at a single city centre hub²², and b) local services being approximately doubled in frequency to enable 'urban metro' operation²³.
4. **Bus/tram co-ordination:** *Maximum integration should generally be achieved with local bus/tram networks.* In areas of lower population density where rail network coverage is limited and new/restored construction is not practicable (for instance in North Yorkshire²⁴, and other rural counties) regulated and guaranteed bus routes would form the primary public transport network, suitably integrated (e.g. at Harrogate, Northallerton, Scarborough and Skipton) with rail.

¹⁹ The aspiration for comprehensive high-frequency direct interconnectivity between UK primary cities broadly aligns with the stated objective of the HS2 project, to deliver "hugely enhanced rail capacity and connectivity between Britain's major conurbations". Refer P12, *High Speed Rail: Investing in Britain's Future – Decisions and Next Steps*, HS2 Ltd, January 2012.

²⁰ It is generally accepted that if Anglo-Scottish rail journey times can be reduced to 3 hours, rail will naturally become the predominant mode over aviation, with no need for additional legislative compulsion. This is supported in P40 *Union Connectivity Review (Final Report)*, Department for Transport, November 2021.

²¹ Transport for the North's journey time and service frequency specification is set out in Figure 3.1, P25 *The Northern Transport Strategy : Spring 2016 report*, Transport for the North, 2016. It is significant to note that despite its broad alignment with the journey time improvements that HS2 would deliver on its north-south routes, this specification was abandoned in all subsequent iterations of Transport for the North's *Strategic Transport Plan*. As yet, no such specification has been established by Midlands Connect for the Midlands Rail Hub.

²² The aspiration for "one connected network", encompassing national, regional and local services, is at the heart of Government thinking. Refer P104, *Great British Railways - The Williams-Shapps Plan for Rail*, DfT, May 2021.

²³ This essentially comprises the 'local capacity dividend' which has been a long-standing promise of the HS2 project.

²⁴ An indicative integrated bus/rail network for the York and North Yorkshire mayoralty is shown in Diagram I03M in Document I03, available on <http://highspeeduk.co.uk/infrastructure.html>.

5. **Pan-UK network development:** *It is plainly vital that any rail strategy developed for the island of Great Britain (i.e. England, Scotland and Wales) does not ignore the needs of Northern Ireland for similar connectivity to the rest of the UK.*²⁵ This would seem to require a solution not primarily based upon rail, given the self-evident difficulty of creating a fixed link (either bridge or tunnel) between Larne and Stranraer, and onwards through Galloway and the Border Country to join the north-south high speed system. With ferries too slow (see **CTO1** above) and prone also to severe weather disruption, an aviation solution based on principal regional airports (i.e. Birmingham, Manchester, Edinburgh, Heathrow, Belfast), with rail providing comprehensive feeder services (see **CTO2** above) on both sides of the Irish Sea, would seem to comprise the optimum solution.
6. **Freight network development:** *Passenger network development (as outlined in CTO 1-5 above) should be coordinated with development of a parallel network on which railfreight is 'prime user'.*²⁶ Ideally this would seek to eliminate conflicts between express passenger traffic and slower freight through the establishment of segregated routes, but in certain locations this would involve sharing of tracks with lower-speed, lower-intensity stopping passenger traffic.

The Need for a UKITS Exemplar Project

A **UKITS** Exemplar Project should be identified in order to:

- a) demonstrate the fundamental feasibility of the 6 **UKITS** Core Transport Objectives;
- b) offer a vision for a better-connected United Kingdom, around which public and political support can be mobilised;
- c) provide a benchmark against which other candidate schemes – either national, regional or local – can be judged.

Performance of Official Schemes and Conflicts with Ongoing Projects

It should particularly be noted that, when assessed collectively, HS2 and all other official strategic schemes²⁷ that have emerged over the past 17 years fall catastrophically short of the ideal i.e. full compliance with the 6 **UKITS** Core Transport Objectives set out in this paper. This failure should not be surprising, given that these objectives are new, and given also that they revolve primarily around issues of overall network performance which were never given serious consideration²⁸ in the development of HS2. This has then had critical adverse effects on the network performance of all subsidiary projects such as Northern Powerhouse Rail, Midlands–North-West Rail Link, Midlands Rail Hub *et al.*

²⁵ The ambition for improved pan-UK connectivity (as **UKNET**) was established in the Government's *Union Connectivity Review*, Department for Transport, November 2021.

²⁶ In 2018 Transport for the North put forward the concept of a "Freight Superhighway connecting Liverpool and the Humber". P34, *Draft Strategic Transport Plan*, Transport for the North, January 2018.

²⁷ Principal official strategic schemes comprise HS2, Northern Powerhouse Rail, Midlands–North-West Rail Link, Midlands Rail Hub and UKNET (as postulated in the 2021 *Union Connectivity Review*).

²⁸ An appreciation of the inadequate consideration of national network performance in the original development of HS2 can be gained from a swift review of PP219-223, Sections 6.1.9 - 6.1.17 *Report to Government*, HS2 Ltd, March 2010. The 5 pages of *Report to Government* devoted to national network development must be contrasted with the 351 pages devoted to the development of HS2 Phase 1 linking London and the West Midlands. (Note that the 'Inverse A' option recommended by HS2 Ltd was amended to a 'Y' configuration by the Government, with the Transpennine 'bar' removed; this was later restored in 2014 with the inception of Northern Powerhouse Rail.)

Without the necessary consideration of overall network performance, this greatly increases the risk of smaller-scale schemes – for instance the Transpennine Route Upgrade (TRU)²⁹ – being designed without the necessary allowance for future optimal development of the railway network in the Northern Powerhouse.

It is clear, from their self-evident connectivity deficiencies and inherent conflicts, that these official schemes cannot be used as the necessary **UKITS** Exemplar Project. It is therefore imperative that an alternative Exemplar Project is identified.

HSUK/Network North/Midland Ring as UKITS Exemplar Project??

The High Speed UK initiative for a national Integrated Rail Plan, with its Network North and Midland Ring regional modules (respectively focused upon the Northern Powerhouse and the Midlands Engine), is offered as a **UKITS** Exemplar Project that closely conforms to the 6 Core Transport Objectives set out in this paper – and in doing so hugely outperforms all official schemes.

For further details please refer to www.highspeeduk.co.uk.

Critical Conflicts between UKITS and the Government's Growth Agenda

The Government's commitment to its Growth Agenda is exemplified in its relaxation of planning restrictions, and across the country, emerging Local Plans are proposing a multitude of new residential and commercial developments, many with the clear potential to obstruct critical railway alignments – either new build, restoration of abandoned routes or upgrading/4-tracking of existing routes. With no coherent plan in place for UK rail network development (**UKITS** or otherwise), the responsible authorities cannot possibly protect these crucial corridors from extraneous development³⁰ – an unintended consequence that will be entirely counter-productive to the Government's Growth Agenda.

This again makes it utterly imperative that an exemplar **UKITS** project such as HSUK/Network North/Midland Ring is promoted in the public domain, to enable local economic development to be properly coordinated with national, regional and local railway network development.

Colin Elliff BSc CEng MICE

Civil Engineering Principal, High Speed UK

²⁹ Review of TRU proposals in West Yorkshire has revealed critical conflicts with **CTO2** – the aspiration for direct links between principal Northern cities, in general accordance with the TfN journey time specification – and with **CTO3** – the aspiration for local 'urban metro' operation to complement transformed regional/intercity services. Specifically:

- Ongoing construction of the new 'Baker Viaduct' at Ravensthorpe will block future restoration of the abandoned Spen Valley Line, essential to achieve a direct Sheffield-Bradford route (i.e. between Yorkshire's second and third-largest cities) running clear of Leeds (Yorkshire's largest city and its busiest railway hub).
- Planned electrification works between Leeds City Station and Cross Gates make no allowance for future 4-tracking of this route, essential for meeting Transport for the North's specification for Leeds-Hull/Newcastle journey times and for delivering improved local services to new commuter stations in east Leeds.

Responses to HSUK's Freedom of Information requests (ref **L22 & L23**), provided by Network Rail and Transport for the North (i.e. the organisations with oversight responsibility for the Transpennine Route Upgrade), make it clear that design of the TRU project has made no allowance for either a future direct Sheffield-Bradford route, or for future 4-tracking in east Leeds.

These critical issues are compounded by the lack of any definitive strategy for the Leeds City Station area (which is openly admitted on P76 of TfN's 2024 *Strategic Transport Plan*).

³⁰ HSUK's letter (ref **L29**) to West Yorkshire Mayor Tracy Brabin highlights clashes, whereby proposed commercial/residential development set out in Leeds City Council's Local Plan threaten critical 'Network North' railway alignments. It is certain that similar conflicts will apply across the entire UK.