

# ICE response to the National Infrastructure Commission Rail Needs Assessment for the Midlands and the North

May 2020

## Overview

ICE has argued for improved connectivity and transport capacity in the Midlands and the North for many years. We noted in our 2016 National Needs Assessment that the National Infrastructure Commission (the Commission) should identify priority routes for capacity improvements on the rail network, including High Speed Two (HS2), rail links to Scotland and Northern Powerhouse Rail.<sup>1</sup> An integrated rail plan, alongside local leadership and decision-making from Midlands Connect and Transport for the North, is an effective way to deliver this ambition.

While connectivity and capacity are critical metrics, we would underscore the need to consider long-term social, economic and environmental requirements. Ensuring that the rail network can cope with future demand and enable expansion as the population and economy grows will ensure optimal whole-life value. The West Midlands has the second-highest growth in passenger demand in Great Britain, increasing 6.3% last year,<sup>2</sup> and rail usage has increased by 85%, 173% and 147% in the North East, North West and Yorkshire and the Humber respectively between 1997–98 and 2017–18.<sup>3</sup>

An integrated rail plan is needed to ensure the Midlands and the North can compete more favourably with London and the South East. Levelling up these regions will require redressing the historic disparity in transport investment, currently a gap of around £1,500 per person between London and regions in the Midlands and the North,<sup>4</sup> and a plan that will enhance network integration and connectivity, enabling enhanced economic development.<sup>5</sup>

## ICE recommends:

- that the Commission recognises that an integrated rail plan must include cross-modal and interdependent investments to ensure a door-to-door alternative to car use which meets passenger needs and expectations
- that the enhancement of existing rail lines be included in this plan, alongside High Speed Two, Northern Powerhouse Rail and Midlands Engine Rail, to meet social, economic and environmental needs
- that the plan be implemented as a continuous programme which can deliver incremental improvements in service and complement major projects, such as High Speed Two, ahead of their delivery date
- that Transport for the North and Midlands Connect be evolved into subnational infrastructure bodies tasked with developing integrated regional infrastructure strategies and bringing together government, regulators, businesses and stakeholder representatives from across infrastructure and economic sectors to coordinate delivery of the plan and maximise the benefits of investment.

<sup>1</sup> ICE (2016) [National Needs Assessment](#)

<sup>2</sup> Office of Rail and Road (2020) [Regional Rail Usage: 2018–19 Statistical Release](#)

<sup>3</sup> Department for Transport (2019) [Rail Passenger Numbers and Crowding on Weekdays in Major Cities in England and Wales: 2018](#)

<sup>4</sup> IPPR North (2017) [New Transport Figures Reveal London Gets £1,500 Per Head More than the North – But North West Powerhouse ‘Catching-Up’](#)

<sup>5</sup> ICE (2017) [Delivering a Northern Infrastructure Strategy](#)

# 1. What potential investments should be in scope of the Commission's assessment of the rail needs of the Midlands and the North?

HS2 Phase 2b, Northern Powerhouse Rail<sup>6</sup> and Midlands Engine Rail<sup>7</sup> are clear projects and programmes to include within scope. These are foundational for any assessment of rail need and will provide a backbone of enhancements and new line capacity. The latter two programmes also have the benefit of being developed by emerging subnational transport bodies who have provided regional needs assessments and an evidence base to build upon; in the case of the North, this is set out in the Northern Transport Strategy<sup>8</sup> and in the Midlands through Powering the Midlands Engine.<sup>9</sup>

Particularly in the case of Northern Powerhouse Rail and HS2 Phase 2b, the emphasis is on city-to-city links and transport hubs with an expected delivery date of up to 2040.<sup>10</sup> More attention on incremental improvements through projects deliverable in the short to medium term is needed. The Commission should evaluate which potential investments can synergise with these major projects by expanding coverage with new or reopened rail lines, especially for rural communities in light of recent announcements regarding reopening stations and passenger services under the Restoring Your Railway 'Ideas Fund'.<sup>11</sup>

Rail should be considered an integral part of an interconnected transport network, and the major projects as trunks serving a wider branch network. Without this, the transformational investment needed will not maximise the social, economic and environmental potential of these major rail investments.

## Ensuring a door-to-door journey

A door-to-door approach to passenger journeys is a necessity. Improved journey times between cities will struggle to attract the necessary footfall if it is inconvenient or difficult to reach a train station from the home or complete a journey using public transport because the service at either end is inadequate. Park-and-ride services in rural settings, metro, tram and light rail provision in cities and towns, and the availability and affordability of bus services in all areas should be considered within scope. The aim should be to make a journey by public transport, including rail, as competitive and convenient on cost and journey time as a journey by car. We argue below that coordination of public transport by subnational transport bodies will be an important supporting policy to achieve this.

## Upgrades to existing services

Both the Midlands Connect Strategy and the Northern Transport Strategy highlight the need to upgrade or expand capacity for some existing lines. However, a rolling programme of wholesale network upgrades should be considered within scope by the Commission.

Electrification of all lines would support service improvements and the 2050 decarbonisation target. Electrified lines produce no at-the-point-of-use air pollutants and at least 60% lower carbon emissions than diesel trains. Electrified trains also operate more quietly, have lower whole-life costs for train and track maintenance<sup>12</sup> and improve journey times through more efficient braking and acceleration.

<sup>6</sup> Transport for the North (2019) [Northern Powerhouse Rail](#)

<sup>7</sup> Midlands Connect (2019) [Midlands Engine Rail: Our Plan for a More Sustainable, Productive and Mobile Midlands](#)

<sup>8</sup> HM Government and Transport for the North (2016) [The Northern Transport Strategy: Spring 2016 Report](#)

<sup>9</sup> Midlands Connect (2017) [Midlands Connect Strategy: Powering the Midlands Engine](#)

<sup>10</sup> HS2 (2019) [HS2 Chairman's Stocktake](#)

<sup>11</sup> Department for Transport (2020) [Restoring Your Railway Fund](#)

<sup>12</sup> Railway Industry Association (2020) [RIA Electrification Cost Challenge Report](#)

As of 2015, 32 Northern and TransPennine Express rail lines were without electrification<sup>13</sup> and significant projects, such as the electrification upgrade of the Midland Main Line, have been cancelled.<sup>14</sup> Concern has been raised about the East Coast Main Line, which has been electrified but has enduring resilience issues and should be considered for remedial work. Where electrification is not practical or cost effective, consideration could be made for upgrades to rolling stock. Adopting hybrid, battery- or hydrogen-powered trains, which would enable partial electrification, would allow for some service improvements and overall reductions in carbon emissions.

Network Rail announced proposals for additional track, upgrades to stations and further electrification on the TransPennine route in 2019.<sup>15</sup> This package of work will provide for more capacity and faster journeys between Manchester, York, Leeds and Huddersfield. Other priority work includes the Castlefield Corridor in Manchester, a line which Network Rail recognises is heavily congested (Network Rail released capacity analysis in September 2019).<sup>16</sup> Representations have also been made to ICE regarding the need to examine upgrades to the Derby to Crewe rail link via Stoke-on-Trent and the Castle Line between Lincoln and Nottingham.

We would recommend that the Commission look holistically at the existing rail network, to identify where similar technological or capacity constraints exist and can be remedied in relatively short order, without impacting on major projects.

## Telecommunications

Productivity gains can be realised during the journey as well as from reduced journey times and this is a key part of the business case for HS2, which cites overcrowded travelling conditions and an unreliable service as having a negative impact on productivity.<sup>17</sup> Over half of all rail journeys in England undertaken in 2017 were by those commuting to work or education, with an additional 9% of journeys for business purposes.<sup>18</sup> These are passengers who might choose to use time spent travelling productively; for those who would consider shifting mode from road to rail, the option to catch up on work during their journey, rather than drive, might be an attractive proposition.

Enabling this requires fast and reliable mobile telecommunications on rail routes. Ofcom's most recent Connected Nations report found that 'services available on trains are not meeting consumers' expectations'.<sup>19</sup> The problem is more acute in the North of England, where 4G service is relatively poor, with lower geographic coverage, particularly on rail, and slower download speeds.<sup>20</sup>

The roll-out of 5G should be an important consideration for an integrated rail plan and telecoms companies should coordinate their roll-out alongside improvements and expansion of the railway network. This would support or enable real-time journey management, mobility as a service, flexible payment concepts and remote utilities management.<sup>21</sup>

## Future-proofing

The Commission should seek to find a balance between the long-term connectivity and capacity needs the Midlands and the North require and the government's priority to drive down 'unnecessary costs and over-specification'.<sup>22</sup>

<sup>13</sup> North of England Electrification Task Force (2015) [Northern Sparks](#)

<sup>14</sup> National Audit Office (2018) [Investigation into the Department for Transport's Decision to Cancel Three Rail Electrification Projects](#)

<sup>15</sup> Network Rail (2019) [Transpennine Upgrade](#)

<sup>16</sup> Network Rail (2019) [Castlefield Corridor: Congested Infrastructure Report](#)

<sup>17</sup> Department for Transport (2020) [Full Business Case: High Speed 2 Phase One](#)

<sup>18</sup> Department for Transport (2019) [Rail Passenger Numbers and Crowding on Weekdays in Major Cities in England and Wales: 2018](#)

<sup>19</sup> Ofcom (2019) [Connected Nations 2019: UK Report](#)

<sup>20</sup> ICE (2017) [Delivering a Northern Infrastructure Strategy](#)

<sup>21</sup> Ibid

<sup>22</sup> Department for Transport (2020) [Terms of Reference for an Integrated Rail Plan for the North and Midlands](#)

Railway lines are assets which have a potentially useful life measured in the centuries, with maintenance and upgrade. When installing new lines, especially in rough, hilly or mountainous terrain where tunnels and aqueducts may be required, thought should be given to ensuring the design will be capable of future upgrades. These might include digital and electrification upgrades, width for additional lines and height. ICE would encourage the Commission to consider a whole-life approach to cost, maintenance, upgrade and value in making its recommendations.

## **2. Which set of rail investments do you believe would, together:**

- a. best unlock capacity within the Midlands and the North?**
- b. best improve connectivity within the Midlands and the North?**

## **3. Within the set of investments you identified, which individual investment(s) should be the highest priority?**

**– Please explain your rationale for this and how this would affect the phasing and sequencing of the full set of investments you identified.**

ICE is responding to questions two and three together.

### **The importance of a phased approach**

It would not be the right approach to consider which projects or programmes would best deliver capacity, improve connectivity or should be prioritised to the potential cost of others. Considering projects in isolation fails to grasp the core strategic problem that needs to be addressed: a lack of capacity and connectivity throughout both regions.

The Commission should determine a strategic overview of need and a phased approach that will meet this need over time, accounting for reasonable cost and capacity constraints. An approach that prioritises some projects on metrics other than meeting identified need may lead to some local improvements but runs the risk of partial delivery. This would fail to ensure the Midlands and the North are more dynamic and integrated regions as a whole.

Rail projects should also be considered as economic and community corridors, not as individual projects. High Speed One (HS1) has unlocked 15,000 more affordable homes for workers in London and enabled the development of new settlements, such as Ebbsfleet Garden City, which will enable an additional 15,000 homes by 2035. It has also been a supportive factor in attracting investment to areas such as Stratford, Ashford and King's Cross.<sup>23</sup> A strategy must be in place to deliver these wider benefits alongside the construction of rail projects. It is critical to avoid a delay in benefits realisation, as has arguably happened to the HS1 corridor.

The Commission should set out a recommendation to the government that all projects and programmes identified as necessary to meet the Midlands' and the North's economic, social and environmental needs be delivered where possible, even if this must be over a longer timescale. This should be through a continuous programme of work, ideally culminating in the delivery of major projects contained in HS2 Phase 2b and Northern Powerhouse Rail, due to be delivered by 2040.

<sup>23</sup> Steer on behalf of HS1 (2020) [Delivering for Britain and Beyond: The Economic Impact of HS1](#)

ICE suggests that the Commission should consider phasing works according to the following categories.

- 1) **Projects which can deliver capacity and connectivity improvements in the short term:** It is important to identify which projects are repeatable and can deliver value in the short term. These might include upgrades to electrify lines or digitise signalling and the procurement of new rolling stock.
- 2) **Projects and programmes below major project status:** The Commission should consider which settlements and corridors should be connected to the wider rail network. These would generally be projects to build new, reopened or extended rail lines which can be delivered within a ten-year timeframe and which should aim to maximise connectivity and access to the rail network. This would provide a pipeline of work for small and medium firms in the built environment sector not involved in planned major projects, as well as an opportunity for private-led delivery.
- 3) **Ongoing delivery of major projects:** Major new high-speed rail lines will form the backbone of new intercity services and provide a pivot point for connecting services. While these projects will not be phased, as such, they should inform the commencement and end point of the integrated rail plan.

## A continuous programme

A continuous programme will provide reassurance to the built environment sector that there is a reliable pipeline of work to plan around, invest in and make long-term determinations about. This will ensure that expertise is developed and retained and will provide a testing ground for innovation that will lead to long-term efficiency gains, increasing the affordability of the overall programme. It will also allow for the sector to properly gauge what capacity will be needed and when, and to make appropriate investment decisions on employment and skills, fully leveraging initiatives such as the National College for Advanced Transport and Infrastructure,<sup>24</sup> established in 2017 to provide dedicated training for advanced and high-speed rail projects.

Such an approach is proving successful in the roads sector. The first Road Investment Strategy (RIS) has delivered efficiencies ahead of target and seen an increase in funding for innovation.<sup>25</sup> Learning lessons from this programme – such as rewarding innovative approaches and performance, emphasising whole-life benefits and having a continuous and funded pipeline of work – is crucial. A stop-start approach will not be delivered as efficiently, if at all.

## 4. What supporting policies need to be in place to deliver the benefits of the investments you identified? If there are any dependencies with other investments/policies, how confident are you that these supporting policies will be put in place?

### Subnational infrastructure bodies

ICE has argued since 2016 that cross-sectoral regional infrastructure forums, which bring together government, regulators, businesses and stakeholder representatives, should develop regional infrastructure strategies.<sup>26</sup> Last year we evolved this argument to recommend that subnational transport bodies in England – including Transport for the North and Midlands Connect – should incorporate other economic infrastructure sectors, and their interactions with housing, to create subnational infrastructure bodies. These would be tasked with developing integrated regional infrastructure strategies.<sup>27</sup>

<sup>24</sup> National College for Advanced Transport and Infrastructure (2020) [Website](#)

<sup>25</sup> ICE (2020) [Civil Engineering Insights on the UK's first Road Investment Strategy](#)

<sup>26</sup> ICE (2016) [State of the Nation 2016: Devolution](#)

<sup>27</sup> ICE (2019) [State of the Nation 2019: Connecting Infrastructure with Housing](#)

These bodies should develop strategies which:

- exist beyond national and local political cycles
- encompass cross-sectoral interests
- are led by evidence
- feed into future National Infrastructure Strategies conducted by the Commission to ensure effective integration of planning across subnational boundaries.

A strategy which fully exploits planned rail investments, delivering a corridor approach, will require liaison between infrastructure sectors and other economic sectors, not least housing and business interests. Improved coordination between infrastructure sectors, preferably through this mechanism, is critical: the rail projects will depend on the ability of other infrastructure sectors to support these plans in a timely fashion. Some of these interdependencies and risks include:

- the need for connecting transport infrastructure to complete journeys
- differing regulatory requirements and priorities between sectors
- disparate investment timescales between sectors
- a reliance on the energy sector to deliver additional production of power and expand transmission for electrification enhancements
- a reliance on the telecoms sector to deliver trackside 5G.

Subnational infrastructure bodies would need appropriate governance mechanisms, with an expectation that these would evolve over time to meet policy developments. For instance, Transport for the North currently has the power to establish new ticketing schemes.<sup>28</sup> Smart, integrated ticketing can facilitate 'seamless travel across different modes and operators, making door-to-door journeys by public transport easier'.<sup>29</sup> Extending this concept to include coordination of timetabling within and between transport modes to minimise loitering and improve overall journey times would improve service and encourage additional uptake of public transport, as it has for models like the Verkehrsverbund system.<sup>30</sup>

## Private investment in rail

It will cost up to £78.5 billion<sup>31</sup> to deliver HS2 Phase 2b, Northern Powerhouse Rail and Midlands Engine Rail. The impact of the Covid-19 pandemic and the scale of the fiscal and monetary policy response to safeguard employment and businesses may mean that available public spending is curtailed.

Infrastructure and construction projects will form an important part of the economic recovery and levelling up all parts of the country. Where the government is able, it should continue to support planned major infrastructure projects. Private interest in, and capital for, infrastructure investment has been abundant in recent years, however, and the government should seek ways to encourage private investment where this represents value for money for the taxpayer and can support public finances.

The government had previously trialled market-led proposals in rail. ICE has recommended that the process can be improved with reforms to simplify applications and safeguard the sharing of intellectual property.<sup>32</sup> Ensuring a continuous programme will also provide additional certainty to investors, which may support efforts to encourage private capital in rail.

Finally, the government's response to the Williams Rail Review will offer an opportunity to reform the franchise system, which has been under the spotlight since the outbreak of Covid-19 across the UK. ICE noted in our response to the

<sup>28</sup> Legislation.gov.uk (2018) [The Sub-National Transport Body \(Transport for the North\) Regulations 2018](#)

<sup>29</sup> Department for Transport (2013) [Door to Door: A Strategy for Improving Sustainable Transport Integration](#)

<sup>30</sup> Research Gate (2018) [Verkehrsverbund: The Evolution and Spread of Fully Integrated Regional Public Transport in Germany, Austria and Switzerland](#)

<sup>31</sup> This figure includes an up to £39 billion investment for Northern Powerhouse Rail (Transport for the North (2019) [At a Glance... Northern Powerhouse Rail](#)), a £3.5 billion investment for Midlands Engine Rail (Midlands Connect (2019) [Midlands Engine Rail: Our Plan for a More Sustainable, Productive and Mobile Midlands](#)) and the high estimate of the cost of HS2 Phase 2b (£32 billion to £36 billion) contained in the latest stocktake (HS2 (2019) [HS2 Chairman's Stocktake](#))

<sup>32</sup> ICE (2018) [State of the Nation 2018: Infrastructure Investment](#)

Williams Review that relatively short franchise periods reduce incentives to invest in improvements or innovations, given that many investments, such as on staff training, technology or improvements to rolling stock, have a period of return on investment which may outlast the franchise length. We noted that the Chiltern Railways franchise, which has a unique two-decade-long agreement, is a notable exception and has seen major improvements and private investment.<sup>33</sup>

## Re-evaluation of central government guidance on appraisal and evaluation

The government makes determinations on projects through an appraisal methodology contained within the Green Book.<sup>34</sup> While this methodology has been periodically updated, more recently to allow for wider benefits, including welfare and wellbeing or environmental impacts, it has been criticised for being, primarily, an economic test and for containing within it biases which benefit already economically productive areas.<sup>35</sup>

ICE understands that the government is evaluating changes to the Green Book which will better account for regional social and economic disparities and gaps in productivity. Such a re-evaluation must occur ahead of an integrated plan for rail being formalised and include more weighting for the environment.

## 5. What impact would the investments you identified have on greenhouse gas emissions? In particular, how would they affect the UK's ability to meet its domestic and international targets, including the Paris Agreement and net zero?

**– In answering this question, it would be helpful if you could consider the expected decarbonisation of road transport, as set out in the Commission's National Infrastructure Assessment and Freight Study.**

The major focus of decarbonisation efforts in transport in the coming decades will be placed on road. Transport accounts for 33% of all carbon dioxide emissions, with the large majority of these coming from road transport.<sup>36</sup>

Rail, by any means of propulsion, is a cleaner alternative to road transport. Each tonne of freight transported by rail reduces carbon emissions by 76% compared to road.<sup>37</sup> However, large sections of track in the Midlands and the North are not currently electrified, and are therefore used by diesel locomotives. Whole network electrification would eliminate that source of emissions while increasing the performance of rail, further encouraging modal shift from road.

Even if the sale of new liquid-fuelled cars is ended by 2030, as suggested by the Commission,<sup>38</sup> there will continue to be emissions from road vehicles, with legacy vehicles still being maintained or resold, for some time afterwards. Other classes of vehicles, such as Heavy Goods Vehicles (HGVs), may drag behind in feasibility and technology terms when it comes to viable decarbonised modes of propulsion. Improved facilities to move freight by electrified rail for at least part of

<sup>33</sup> ICE (2019) [ICE Response to the Williams Rail Review](#)

<sup>34</sup> HM Treasury (2018) [The Green Book](#)

<sup>35</sup> University of Cambridge and the Bennett Institute for Public Policy, D. Coyle and M. Sensier (2018) [The Imperial Treasury: Appraisal Methodology and Regional Economic Performance in the UK](#)

<sup>36</sup> Department for Business, Energy and Industrial Strategy (2018) [2018 UK Greenhouse Gas Emissions. Provisional Figures](#)

<sup>37</sup> Department for Transport (2016) [Rail Freight Strategy](#)

<sup>38</sup> National Infrastructure Commission (2020) [Net Zero: Commission Recommendations and the Net Zero Target](#)

the journey will support efforts to decarbonise transport as a sector and meet the government's commitments. These benefits would be in addition to reducing congestion and improving on road safety by reducing HGV road miles travelled.<sup>39</sup>

The extension to Scotland of a north/south high-speed rail service might reduce demand for domestic flights, as well as enable wider use of capacity at airports outside of the South East of England.<sup>40</sup> The overall impact on greenhouse gas emissions of this modal shift would, however, be a matter for debate as these flights might reduce the overall demand for air travel, or reduce the barriers to a greater number of international and long-haul flights.

## 6. In addition to greenhouse gas emissions, what are the potential environmental effects (positive and negative) of the investments you identified?

The transference of road traffic to rail, as well as lessened congestion, would reduce the amount of nitrogen dioxide and particulate matter in the air around communities. Road transport is specified as the main source of nitrogen dioxide in 96% of air-quality management areas in the UK<sup>41</sup> and both types of emission have impacts on respiratory health.

There may be opposition to development owing to the potential impact on the natural environment. This area of the country includes nature reserves, national parks, green belt or areas of outstanding beauty around the Lake District, Peak District, the National Forest and Yorkshire Dales. Mitigation efforts, such as increased tunnelling, to protect these habitats may be necessary. Objections not dissimilar to those which have been drawn against HS2 when it comes to protection of ancient woodlands or conservation areas should be expected once planning is underway.

## 7. Aside from those delivered by improved connectivity and greater capacity, what broader impacts on people's quality of life could the investments you identified have?

It would be reasonable to expect an expansion in the availability of skilled jobs and apprenticeships in the Midlands and the North if these projects and programmes went ahead. Projects of a similar scope, such as Hinkley Point C, have seen the creation of tens of thousands of domestic employment opportunities and 1,000 apprentice places,<sup>42</sup> while rail projects, like Crossrail, have created 75,000 business opportunities for direct contractors and the supply chain.<sup>43</sup> Continuing the rail pipeline would also ensure that expertise is maintained and expanded upon for future development or export.

Modal shift would also ensure less congestion on roads in the Midlands and the North, relaxing pressure on road expansion demand and improving journey times and quality of life. Improved telecoms provision on rail would also have a social benefit, in addition to productivity gains discussed earlier in this submission.

Integrated ticketing would simplify and reduce the cost of fares. This would have a direct impact on economic wellbeing, making travel more affordable and reducing the cost of living for millions of people. Environmental benefits associated with greater use of rail and public transport would also improve public health and may encourage more active travel.

Viewing these rail investments as a corridor will also boost employment opportunities in newly created, or connected, settlements. This economic development, in addition to creating new housing, will produce new employment opportunities

<sup>39</sup> Department for Transport (2016) [Rail Freight Strategy](#)

<sup>40</sup> ICE (2019) [Civil Engineering Insights on HS2 and Alternative Proposals](#)

<sup>41</sup> Department for Environment, Food and Rural Affairs (2018) [Air Pollution in the UK 2017](#)

<sup>42</sup> Department for Business, Energy and Industrial Strategy (2018) [Hinkley Point C Wider Benefits Realisation Plan](#)

<sup>43</sup> Crossrail (2013) [£5.5bn of Crossrail Contracts Creating Jobs and Business Opportunities Around the UK](#)

around stations. The above investments will also broaden the choices individuals have in terms of where to work, learn and live and improve opportunities for social mobility.

## 8. How would the costs and benefits of the investments you identified be distributed economically, socially and geographically?

The primary beneficiaries would be those living in the Midlands and the North. However, increased productivity, expanded national economic output and the relocation or creation of businesses would have an impact on the economy and make these regions more attractive to domestic and international private investment.

### Funding and financing

Both Northern Powerhouse Rail and Midlands Engine Rail have a similar rationale at their core to projects such as Crossrail and, arguably, should have a similar mix of government and local investment. The government should provide capital grants, with responsibility for a proportion of funding and financing given to the subnational transport bodies to raise.

There are, however, important limitations in this model. For one, Transport for London has substantial powers and existing revenue which Transport for the North and Midlands Connect currently lack.

Additionally, while some capital- and revenue-raising methods used on the Crossrail programme might be viable, including over-station development, the Community Infrastructure Levy, S106 developer obligations and contributions from businesses, innovations such as Land Value Taxation may not be as viable due to low land values. For these reasons, more support from central government may be required, perhaps with a mix of grants and loans against future revenue.

Committing additional upfront government support for these projects, in lieu of established mechanisms to raise local investment, may have been made more challenging by Covid-19. This challenge should be weighed against historic decision-making on investment priorities, through Green Book guidance, which has disadvantaged these regions by prioritising overall economic impact. Priorities such as reducing the gap in productivity, social need or improving wellbeing should be considered more prominently against overall return on investment. This includes the need for robust transport infrastructure to support economic development in the Midlands and the North.

### Freight and the economy

An expanded rail network is particularly important for the transportation of freight and the stimulation of businesses in both regions for internal and international trade. Transporting more freight by rail will provide a more sustainable infrastructure network to support areas in the Midlands and the North in adapting to the changing industrial reality in both regions.

HS2 Phase 2b will be particularly important to releasing freight capacity on the existing network. Key economic hubs that warrant close examination are Midlands Connect's proposals for maximising the potential of the East Midlands Hub, Manchester Airport and the ports of Liverpool, Hull and the Tyne. Faster intercity services on new lines will enable greater freight capacity on existing lines for economic, industrial and manufacturing centres to utilise for export.

## 9. Which set of investments would best improve rail connectivity with Scotland?

– If these are different to the investments you identified above, please explain why.

HS2 Phase 2b is the major project which would improve rail connectivity with Scotland outside of service improvements to the West Coast or East Coast main lines. ICE is supportive of efforts to improve rail connectivity with Scotland and we have called for a business case to be developed to extend HS2 beyond Phase 2b to Scotland, so there is an unbroken high-speed rail link between London and cities in Scotland.<sup>44</sup>

## 10. What would be the impact of the investments you identified on connectivity between the Midlands and the North, and other parts of the UK?

– Please explain where and how impacts would occur.

Neither the plans for Midlands Engine Rail nor Northern Powerhouse Rail make extensive provision for connectivity between or beyond the two regions. Both strategies rely on HS2 and existing rail links to provide interregional connectivity, rather than expanding upon them.

Electrification and capacity upgrades to interregional and main lines would improve journey times and allow higher utilisation of the track. Additionally, the reopening of closed rail lines may improve connectivity between regions where that track used to provide connections or can be further extended to do so, where there is a suitable business case. The CrossCountry line which connects the Midlands and the North is one example of a two-track line with competing passenger and freight demands and high utilisation which would benefit from improvements to track and rolling stock.

An indirect impact which the Commission should seek to quantify and mitigate against may be on the economic performance of other regions of the UK. Improved connectivity within and between the Midlands, the North, Scotland, the South East and London will likely improve economic output and business conditions within these regions. However, this may be to the cost of Wales, the East of England and the South West of England. ICE is supportive of exploring an extension of the high-speed rail network to these regions.<sup>45</sup> Doing so would add value to the planned network and broaden opportunities to much of the rest of the country. ICE would encourage the Commission to consider this question in the next National Infrastructure Assessment.

The regions within the Midlands and the North also contain important, yet dispersed, centres of manufacturing and industry, including aeronautics, automotive, rail and fabrication. Better connecting these centres will facilitate knowledge sharing, cooperation and trade, and offer wider access to skilled employees, further boosting the potential of economic expansion.

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<sup>44</sup> ICE (2016) [National Needs Assessment](#)

<sup>45</sup> Ibid

## 11. What would be the impact of the investments you identified on international connectivity across the Midlands and the North?

### – Please consider the impact on both ports and airports.

The North's airports handle 15% of all passenger trips made to or from the UK, contributing £5.5 million to the North's gross value added (GVA), while they handle just 2.3 million tonnes of freight per year.<sup>46</sup> There is substantial opportunity to increase the utilisation of airports in the Midlands and the North for freight movements, with Airlines UK noting that this would be beneficial to the regional and national economy.<sup>47</sup> Maritime ports in the North create approximately £0.2 million in GVA and handle 2 million passengers per year, although they do handle a third of all UK freight tonnage.<sup>48</sup>

Enhanced rail connectivity would support freight movements to and through airports and maritime ports in these regions. At present freight movement is hampered by poor rail capacity, both in terms of routes served and train paths.<sup>49</sup>

Rail connectivity improvements would also bring more potential passengers in range for regional airports, reducing the demand pressures on the South East and increasing competition between airports.<sup>50</sup> Post-Covid-19, greater domestic demand enabled by improved rail access at Midlands and Northern airports may serve as an encouragement for expansion of routes, which may in turn improve these regions' attractiveness to emerging markets, particularly the BRICS nations (Brazil, Russia, India, China and South Africa), further encouraging foreign direct investment.

## About ICE

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.

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<sup>46</sup> Transport for the North (2017) [Independent International Connectivity Commission Report](#)

<sup>47</sup> Airlines UK (2018) [Assessment of the Value of Air Freight Services to the UK Economy](#)

<sup>48</sup> ICE (2017) [Delivering a Northern Infrastructure Strategy](#)

<sup>49</sup> Ibid

<sup>50</sup> ICE (2019) [Civil Engineering Insights into Heathrow's Third Runway and Alternative Proposals](#)