

ICE response to the Williams Rail Review

May 2019

1. About ICE

- 1.1 Established in 1818 and with over 93,000 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.

2. ICE response

- 2.1 This response primarily focuses on the following areas that the Williams Rail Review is examining which pertain to infrastructure:
 - 2.1.1 A system that is financially sustainable and able to address long-term cost pressures.
 - 2.1.2 A rail sector with the agility to respond to future challenges and opportunities.
 - 2.1.3 Increasing integration between track and train.
 - 2.1.4 How to improve transport services across UK regions and devolved nations, including exploring options for devolution of rail powers.

3. Executive summary

- 3.1 ICE has identified eight recommendations to ensure that UK train passengers and businesses are able to benefit from a high-performing rail network.

Recommendations for Government

- Government should replace stop-start funding periods with a longer-term rail investment pipeline, particularly with the significant amount of investment required in the Digital Railway and decarbonisation of the rail network. This will help provide certainty to the industry and investors and foster a culture of innovation and skills development.
- A simplified interface and standard model of transition across franchises is required, with the primary focus on improved performance and cost efficiency.
- ICE agrees with the Williams Rail Review that passengers should be at the heart of the railway, but also emphasises that safety should continue to be a high priority, building on the positive steps taken over the past two decades.

Recommendations for Network Rail

- ICE welcomes further devolution of the rail network in order to achieve better services and more targeted investment, but we believe that there should be a good operational balance, for example through long-term investment planning, high quality national intercity rail services and ensuring that rail freight remains competitive, between central and devolved networks under Network Rail's structure.
- Progress should continue to be made in delivering the Digital Railway programme. This is fundamental to transforming the passenger network and delivering a modern railway that can accommodate more trains, greater and faster connections, and better reliability. The successful delivery of the programme will also mean more efficient rail freight operations through timetable flexibility, a greater availability of paths and optimised running.

Cross-cutting recommendations

- Industry, government and the supply chain should work together to develop a long-term, integrated training model to ensure better decision-making and better outcomes for the rail sector in the future. This should begin at apprentice level and continue as lifelong learning through to leadership and management.
- The benefits of the Infrastructure Client Group's Project 13 approach must be considered in project and programme delivery. This would enable long-term relationships and closer collaboration on major rail programmes and projects, allowing suppliers and advisors to better know their customers and adapt and develop appropriate methods and products for their needs. Engaging the supply chain earlier and more strategically will also foster an environment where innovation in terms of both products and processes can be brought to the fore, increasing the chance of successful and productive deployment.
- Combined responsibility for local development, infrastructure and service delivery together with contractual incentives will go some way to improving the current system. Consideration must also be given to joining up rail enhancements with wider planning issues across local authorities.

4. Introduction

- 4.1** Rail travel has seen a surge in demand in the 20 years since the privatisation of British Rail.¹ Journey numbers have more than doubled since 1997 yet, despite this, rail fares remain the highest in Europe.² However, improvements have been made – services per day have increased markedly, the cost of running the railway has fallen by 20% since 2003-04, supporting a 255% increase in investment over the same period, while the safety record of the industry is the best of the ten largest railways networks in Europe.^{3 4}
- 4.2** 87% of forthcoming pipeline spend on rail is due to come from the public sector.⁵ This is being driven by major projects like High Speed 2, Northern Powerhouse Rail and Crossrail 2, which seek to create a better-connected Britain and a more reliable train service. In 2016/17, the private sector invested £925m in rail infrastructure, most

¹ Department for Transport (2018), [Rail Factsheet](#)

² TUC (2018), [UK commuters spend up to 5 times as much of their salary on rail fares as other Europeans](#)

³ Rail Delivery Group (2017), [Partnership railway's transformation in numbers](#)

⁴ Rail Safety and Standards Board (2018), [Annual Safety Performance Report 2017/18](#)

⁵ Infrastructure and Projects Authority (2017), [Analysis of the National Infrastructure and Construction Pipeline](#)

of which was on rolling stock – this compares to £4.2bn of government support in the same period.⁶ Despite record investment, customer satisfaction rates portray a mixed picture, with some train operating companies scoring as low as 27% for satisfaction with value for money.⁷

- 4.3** ICE's National Needs Assessment, published in 2016, recommended that the Government should increase investment in the commuter rail network to ensure the economic development of urban centres is not constrained by overcrowding and congestion. Substantive funding for transport should be devolved to local and regional authorities to allow them to invest in the growth of their economies.⁸ Additionally, electrification of the rail network must take place and be done at pace in order to meet carbon reduction targets – the National Needs Assessment found that, to achieve decarbonisation by 2050, 300km of rail track must be electrified per year.⁹

5. A system that is financially sustainable and able to address long-term cost pressures

- 5.1** There is a need to view rail as, ultimately, an infrastructure system. This system works as a series of parts and requires continuity in terms of funding and organisational structure to be able to deliver the best possible service to passengers. At present, there are a number of frontiers that complicate the system.
- 5.2** One of the most prominent of these is that track and train operate on different cycles. Franchises are typically an average of 7 years in length, though have generally increased to longer periods in recent years. This cycle does not align with Network Rail's five-year Control Periods and the Department for Transport's own longer-term investment plans. The manufacturing and supply side of the sector operate on long-term cycles, but rely on a degree of certainty from the public and private sectors in order to deliver their products to market. Replacing stop-start funding periods with a longer-term investment pipeline, particularly with the significant amount of investment needed in the Digital Railway and a need for decarbonisation, will help provide certainty to the industry and investors and foster a culture of innovation and skills development.
- 5.3** Having relatively short franchise periods means that the operators' ability to invest in improvements is limited to that particular timeframe; investment in business and productivity improvements, including on staff and technology, often takes many more years to bear fruit in other sectors and therefore benefits may be being missed out under the current model. Additionally, changes to franchise operator also means a complete change in senior management and organisational structure, potentially resulting in inefficiencies. A simplified interface and standard model of transition across franchises is required, with the primary focus on improved performance and cost efficiency.
- 5.4** A notable exception is the Chiltern Railways franchise, a unique 20-year agreement that has allowed the private operator the time and certainty to work with and alongside Government, Network Rail, local authorities and the supply chain to deliver major improvements and investment.^{10 11} Chiltern is consistently rated by users as one of

⁶ Office of Rail and Road (2017), [Rail Finance 2016-17 Annual Statistical Release](#)

⁷ Transport Focus (2018), [National Rail Passenger Survey](#)

⁸ ICE (2016), [National Needs Assessment](#)

⁹ ICE (2016), [National Needs Assessment](#)

¹⁰ London TravelWatch (2017) [National Rail Performance Report Quarter 2 2017-18](#)

¹¹ Network Rail (2010), [£250m rail investment to bring much faster journeys for Chiltern passengers](#)

the best performing train operating companies¹², has opened new stations on its routes and worked closely with Network Rail and DfT to improve existing infrastructure through its three-part Project Evergreen works programme.

- 5.5** The Department for Transport (DfT) and the Treasury have indicated that they are keen to increase private instigation, design, delivery and operation of new rail capacity, issuing a call for ideas on proposals to enhance the railway which are financially credible without government support and guidance in 2018.¹³ ICE supports these moves to provide greater consideration for market-led proposals and third-party funding and also believes further funding and financing mechanisms should be explored. Our 2018 State of the Nation report on infrastructure investment called for policy initiatives to increase the level of involvement that the private sector has in the development of the UK's rail industry. However, to boost participation, the current framework for market-led proposals requires simplification and reform so that the intellectual property associated with different bids is fairly rewarded.¹⁴

6. A rail sector with the agility to respond to future challenges and opportunities

- 6.1** Decarbonisation of the transport sector is vital – rail has a major role to play, both in terms of reducing the impact of the sector as a whole and providing a low carbon travel alternative to other options. The Williams Rail Review outlines the need for a rail system fit for the future, which means a requirement for resilience to be built into the network now and further investment made in a low carbon railway, including electrification. Positioning future investment in this way should be a priority.
- 6.2** Bringing through new entrants and developing the skills of those involved in delivering, maintaining and operating the railway should be a core consideration in building a rail sector with the agility to respond to future challenges. The Rail Supply Group's strategy for productivity and growth found that 3,000 new rail engineering graduates per year are required to maintain current skills levels. The paper calculates that the cost of skills shortages and gaps could cost the rail sector over £200m per year, and the Government over £350m per year.¹⁵ Furthermore, the Rail Safety and Standards Board and National Skills Academy for Rail estimated that 40% of all skills shortages in the rail sector will be caused by people retiring, suggesting a rising age profile.¹⁶ Viewed another way, these shortages represent an opportunity for talent to enter the sector; employers should create attractive pitches to encourage more to enter the sector given the certainty of a career.
- 6.3** An ICE review into professional skills in 2018 found that employers currently perceive a shortage of professional civil engineers in general, albeit not necessarily at graduate level.¹⁷ It is therefore vital that the profession encourages bright and able people to join, and that it removes perceived barriers which may deter suitable people. Great strides have been made to make the profession more accessible to women and to people of different ethnic, class and economic groups. Several current initiatives are reinforcing the message. We strongly support these efforts, including those outlined in the Rail Sector Deal.¹⁸ However, this can go further and industry, government and the supply chain should work together to develop a long-term, integrated training model

¹² Transport Focus (2018), [National Rail Passenger Survey](#)

¹³ DfT (2018), [Rail market-led proposals](#)

¹⁴ ICE (2018), [State of the Nation 2018: Infrastructure Investment](#)

¹⁵ Rail Supply Group (2016), [Fast Track to the Future](#)

¹⁶ RSSB (2015), [The cost of not addressing skills issues in the rail sector](#)

¹⁷ ICE Skills Review Group (2018), [ICE Professional Skills](#)

¹⁸ HM Government (2018), [Industrial Strategy: Rail Sector Deal](#)

to ensure better decision-making and better outcomes for the rail sector in the future. This should begin at apprentice level and continue as lifelong learning through to leadership and management. Integrated training is one part of the solution; a system that compels project team members to communicate and share their expertise can also enable better decision-making, reduce costs in the long-term and lead to better delivery of rail projects.

- 6.4** We welcome the recognition in the *Rail in the future transport system* paper, released as part of the Williams Rail Review, that the current franchising arrangement limits commercial incentives for innovation later in the contract period.¹⁹ If we are to incentivise and create shared accountability across the rail sector, objectives need to be joined-up more effectively than they are at the moment – aligning the timeframes is crucial to this, as well as allowing greater flexibility within franchise arrangements.
- 6.5** As Keith Williams has alluded to, imposing a one-dimensional structure will not be the right solution for a complex infrastructure system such as rail. To drive a fundamental improvement in the national rail system, there is a need to join-up both the management of track and trains and better integrate local and regional policy ambitions and aspirations into planning and delivery, ensuring it is agile and flexible enough to respond to local priorities.

7. Increasing integration between track and train

- 7.1** The Government have taken steps to end the operational divide between track and train through its strategic vision for rail,²⁰ relaxing rules on who provides improvement for maintenance work for track and allowing for private companies operating a line under a concession to lead on maintenance. ICE welcomes steps to integrate the disparate teams providing the overall service and to concentrate on an outcomes-based approach.
- 7.2** Technology in the rail sector, primarily driven by the Digital Railway, is already driving integration to an extent. Rolling stock is becoming more complex and specific to the infrastructure it runs on, with signalling technology and track-side infrastructure soon able to be brought into the train itself. This means the current model of separate management will increasingly become outdated and unproductive, necessitating a move to greater integration between track and train. Approximately two-thirds of the rail network's signalling system needs to be replaced in the next 15 years, a significant renewal programme that will in itself bring affordability and deliverability challenges to the fore.²¹
- 7.3** Progressing with the Digital Railway programme is therefore fundamental to transforming the passenger network and delivering a modern railway that can accommodate more trains, greater and faster connections, and better reliability. The successful delivery of the programme, which should be progressed on a priority basis, will also mean more efficient rail freight operations through timetable flexibility, a greater availability of paths and optimised running.
- 7.4** Building on the principles of the Infrastructure Client Group's Project 13 initiative, ICE believes that a move to incentivised partnerships that take a system-wide view across the project and asset lifecycle will lead to better outcomes across a number of indicators and encourage investment in innovation and skills. An integrated approach such as this will ultimately lead to a more resilient and better value railway for passengers and industry. More information on Project 13 can be found later in this response.

¹⁹ DfT (2019), [Rail in the future transport system](#)

²⁰ DfT (2017), [A strategic vision for rail](#)

²¹ Network Rail (2018), [Digital Railway Programme](#)

7.5 Increasing integration between track and train is also closely aligned with the devolution of services, further outlined in the next section. With Network Rail's plans for further regionalisation²², this presents an opportunity to improve the relationship between track and train operations, create local joint operation teams, and provide businesses with clearer incentives to improve performance across both passenger and freight operations.

8. How to improve transport services across UK regions and devolved nations, including exploring options for devolution of rail powers

8.1 Devolution of decision-making over infrastructure provision and service is desirable for four key reasons:

- Local organisations, including local government and businesses, are better placed to adopt integrated approaches to transport, land-use planning and economic activity that meet people's needs.
- Local and regional service providers often have a superior understanding of infrastructure networks in their area and can scale services more effectively.
- Devolution can empower democracy by bringing local people closer to the important decisions that impact on their everyday lives.
- It can work – on a cross-infrastructure basis, devolution has had positive impacts in London, Northern Ireland, Scotland, Wales and the combined authority mayoral regions.

8.2 In principle, the regionalisation of the rail network is a sensible policy that can allow for greater customer focus and efficiencies. This includes local consideration of timetabling, budgetary responsibility, and standards that can be locally applied to provide better outcomes. ICE welcomes Keith Williams' announcement that a 'one-size-fits-all' approach to regionalisation of rail is unlikely to work. Devolution must be compatible with retaining a rail network that operates at a national dimension, including long-term investment planning, high quality national intercity rail services and ensuring that rail freight remains competitive and able to take more goods off our congested roads.

8.3 This local focus, combined with opening up the funding, financing and delivery of investment projects to third parties, will assist in driving efficiencies and value for money, with devolved route partnerships allowing a more tailored approach for regional customers.

8.4 While regional division makes sense from an administrative and geographical point of view, the boundaries are not always based on the type of service within those regions. If one operator runs the network through an entire region, they may prioritise intercity services over local services, potentially resulting in a poorer service for those who use trains that bring in, comparatively, less revenue. A solution could be for no single operator to have complete control over services in an entire region, or for franchise and concession agreements to make clear that different types of line require different approaches.

8.5 National oversight and consistent standards are vital even with a move to a regionalised model. A completely subdivided system would make it difficult to respond to critical issues affecting one or more regions, while the risk of missing the 'bigger picture' and any trends, either negative or positive, would increase. Route devolution could result in greater levels of innovation throughout the supply chain than at present, as well as allowing track renewal costs to be compared more closely region-by-region and therefore allow best practice to be benchmarked more effectively. Local innovation can also be spread as best practice nationally, for example as an

²² Network Rail (2019), [Change afoot at Network Rail as new regional managing directors announced to drive new 'passenger first' approach](#)

initial pilot that is tested, benchmarked and improved before being applied as appropriate to other areas of the network.

- 8.6** Skills issues and capability must also be considered as part of any move to greater regionalisation. A regional approach must ensure that there is the appropriate expertise with local knowledge in place first. This is particularly important considering the safety-criticality of the rail sector.
- 8.7** Having regional governments setting and defining the objectives, strategy and customer vision for transport – in the way that Transport for Wales, Transport for Greater Manchester and Transport for London do – creates an aligning point for different stakeholders in the industry, with a strong framework for an integrated provider to deliver joined-up transport services. Combining clear frameworks and integrated operations with strong, hands-on regulation and transparency of the accountabilities and responsibilities that each hold, will create public confidence in the system.
- 8.8** Rail devolution should not be undertaken in isolation. Consideration must be given to joining up rail enhancements with wider planning issues across local authorities. ICE's 2016 State of the Nation: Devolution report recommended that local areas should first identify their infrastructure requirements through collaboration with local communities, relevant government departments, regulatory and delivery bodies (including regional transport bodies), local government and academia to create a regional infrastructure strategy. A systems approach within these strategies to manage the links between infrastructure sectors, particularly with consideration to resilience planning, is also important.²³ ICE's 2019 State of the Nation report will explore issues around housing and infrastructure provision, including transport, in greater detail.

9. Project 13

- 9.1** The current business model for construction is not fit for purpose. Poor productivity and adversarial practices lead to poor outcomes for clients and infrastructure users, while the conventional approach to risk and margins often forces clients to pursue the cheapest offer.
- 9.2** The Infrastructure Client Group's Project 13, which ICE has been supporting, is an industry-wide change programme to move the industry from a transactional business model to an enterprise model, and could play a part in reducing project costs and delivering projects with better outcomes than at present.²⁴
- 9.3** In November 2018, Network Rail became a Project 13 'early adopter', committing to implement the principles into its next generation track alliances.²⁵ This covers the Transpennine route upgrade and Infrastructure Projects Track Alliances. Project 13 aligns closely with the Williams Review's aim to put passengers first, as it focuses the organisation on customer outcomes first and foremost. As part of the 'early adopter' scheme, Network Rail will also learn from and share good practice with other infrastructure organisations in order to further improve outcomes.
- 9.4** Specifically, the Project 13 business model can support better delivery of rail projects in the following ways:
- **Providing sufficient scope for efficiency, productivity and innovation**, so that suppliers can invest in more productive methods of construction which will pay off across a larger programme.

²³ ICE (2016), [State of the Nation: Devolution](#)

²⁴ Infrastructure Client Group, [Project 13](#)

²⁵ ICE (2018), [Project 13 welcomes 2 new organisations](#)

- **Long-term relationships with closer collaboration**, allows suppliers and advisors to get to know their customer better and adapt and develop appropriate methods and products for their needs.
- **Integration**, by bringing together advisors and different levels of suppliers jointly to work with the owner the combined expertise can be used to develop and deploy innovation rather than introducing competition across contracts.
- **Earlier, strategic engagement of the supply chain**, allows better joint scoping of potential application of innovative products and processes, therefore increasing the chance of successful and productive deployment.

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