



Great British Railways Transition Team

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Call for Evidence – Submission from England's Economic Heartland (EEH)

England's Economic Heartland (EEH) is the sub-national transport body for the region covering Swindon across to Cambridgeshire, and Northamptonshire to Hertfordshire. In February 2021, EEH published its regional transport strategy, *Connecting People Transforming Journeys*¹. A core theme of the strategy was the vital role that rail must play in order to create a public transport offer that forms the core structure of our region's transport system going forward.

It is in the context of ensuring delivery of the EEH transport strategy that we welcome the opportunity to participate in the call for evidence to shape the Whole Industry Strategic Plan.

The Heartland region is complex in its travel movements: across the region are large and medium size communities that collectively play a vital role in the long-term success of the UK economy. However, connectivity in the region is poor. Presently, there are limited options for travelling across the region by public transport, resulting in: longer than average car journeys; 30% higher carbon emissions from transport than the national average; and housing and labour markets that are geographically constrained by poor connectivity.

Rail, and particularly delivery of East West Rail as the spine that connects the rest of the region's rail network, is fundamental to both our success and our ability to contribute to the success of the UK as a whole.

For too long, the rail industry has been dominated by an over-emphasis on routes and services that spin out radially from London. As the rail industry devolves further, we advocate for a redrawing of railway regions to reflect regional economies and flows. The transition to Great British Railways (GBR) must be a true transformation felt across every part of the rail network. Clarity is needed around who is accountable for decisions and when they will be made, with decisions being made for the benefit of the whole railway, not just the 'rail region' from which they are being planned (at present, EEH and several of our local authority partners span multiple railway regions).

¹ https://eeh-prod-media.s3.amazonaws.com/documents/Connecting_People_Transforming_Journeys_av.pdf

The creation of GBR is a significant opportunity to reduce the complexity and fragmentation that exists in the rail industry and to better align long term planning of the railways to the journeys and options that passengers and freight want to make, both now and in the future.

EEH and England's other sub-national transport bodies (STBs) are uniquely positioned to work with the new body to realise the potential of our rail network. In recent years, EEH has formed a collaborative partnership with Network Rail that has demonstrated the true potential for partnership working. By acting as co-commissioners and co-sponsors, EEH and Network Rail produced *EEH's Passenger Rail Study Phases 1² and 2³*. The approach taken was credit to the individuals involved within both Network Rail and EEH and paved the way for an example of the impact that collaboration between national infrastructure agencies and sub-national transport bodies can have.

As a result of this partnership, EEH's evidence base and policy framework for rail (including the regional transport strategy and passenger rail study) sets out the framework for a long term strategy for rail in the Heartland region. In this regard, the current investment pipeline in the transport strategy, coupled with outputs from the Passenger Rail Study already provide the basis for GBR's long-term investment programme in the Heartland.

In the coming months, EEH will be developing the outputs of the Passenger Rail Study to form part of a region-wide investment proposition. At that point, the outputs of the Passenger Rail Study will be supported by a clearer programme of prioritisation and a plan for their delivery.

Underpinning the regional transport strategy and wider suite of evidence reports, is an evidence base that has been developed on behalf of all of EEH's local authorities. Through this data, and through our partnerships across the region, EEH has a clear understanding of the needs of our communities. As such, and in line with the long term expectations of the region, sub-national transport bodies should have a clear role in helping develop GBR's specifications for future rail concessions and being involved in the oversight of their implementation. EEH can, on behalf of its communities, ensure that GBR is shaping proposals for concessions that meet the connectivity needs and expectations of the communities that it will be serving. Ensuring future rail concessions are co-designed between STBs and GBR will be fundamental if we are to deliver a railway for the future that has people and places at its core.

1: Strategic Objectives for the Whole Rail Industry

a. Application of objectives to our region

The strategic objectives for EEH are captured within our regional transport strategy, *Connecting People Transforming Journeys*, published in February 2021.

Whilst our key principles align with the appropriate strategic objectives for the whole rail industry, our indicators of progress do not specify the transport mode for improvement delivery – rail is considered as part of the wider transport system.

The rail strategic objectives would benefit from an explicit recognition of the need for rail to work collaboratively with other transport sectors and local authorities to determine the most appropriate transport solution and strategic fit to achieve desired place-based outcomes. This is applicable for both passenger and freight considerations. Sub-national transport bodies are well placed to prioritise investments based on the strategic fit within regional geographies (which reflect economies, rather than rail lines).

² https://eeh-prod-media.s3.amazonaws.com/documents/Passenger_Rail_Study_Phase_One.pdf

³ https://eeh-prod-media.s3.amazonaws.com/documents/EEH_Passenger_Rail_Study_Phase_2_Report.pdf

Commented [FF1]: *We recognise that many of you are working to similar long-term objectives. We are very interested in how you define and quantify your objectives, and how they match or differ from our own. When considering your response to question 1, please use your experiences to inform your answers and share any examples, taking into account that in all future scenarios we expect affordability to be a significant constraint.*

Commented [FF2]: *a.How would you apply these objectives to rail in your region or to your area of expertise within the transport sector? Do you have evidence you can share with us of how you have applied similar objectives in relation to rail, and do you consider the objectives to have missed any key areas?*

It is also important that levelling-up is considered at a local level, rather than on a regional basis. Despite the region's economic success, there are still many pockets of significant deprivation in our region which would benefit from improved connectivity. Equally, investment in the region will unlock the economic growth required to fund levelling-up in other parts of the countries.

b. Simultaneous progress, barriers, and trade-offs

We envisage rail as part of an integrated public transport network which gives people travel choices. Prioritising long-distance, cross-GB services to/from London at the detriment of inter-regional and intra-regional connectivity runs counter to enhancing regional economic prosperity and encouraging more sustainable travel patterns in the long term.

For example, the East Midlands franchise service specification has resulted in the removal of inter-regional services calling at Luton/Luton Airport Parkway, Bedford, and Wellingborough, resulting in longer journey times for passengers travelling from/to the region on the Midland Main Line, as well as reduction in connectivity with adjoining regions. Not only does this fail to recognise the economic potential of these key urban areas, but it also overlooks Bedford's long-term role as a strategic interchange with the delivery of East West Rail.

Importantly, we must continue to invest in the parts of the rail system which are performing well to maintain their success and continue to receive the net benefits to society. With constrained funding, every enhancement (new infrastructure and enhanced renewals) must deliver the strategic outcomes originally conceived in the early development and strategic planning stages.

c. Long-term societal, economic, and environmental trends

In collaboration with partners, EEH has developed four alternative futures scenarios for our region, which will be used as part of assessing infrastructure options⁴. As part of this work, it was assumed that drivers related to net zero carbon, regional development (committed growth in local plans), and regional economic development/industrial sectors were established. All the alternative futures were considered to have shared drivers of demographics, attitudes to the environment, clean transport technology, changes in remote activities, data and connectivity, and attitudes to diversity.

d. Uncertainties and resilience

Our work identified the following four 'alternative futures', for which the strength of government policy and funding availability were key drivers of uncertainty.

Business-as-usual: a continuation of trends.

Slow recovery: a slower return to the pre-Covid 19 business-as-usual and an economy vulnerable to external and internal economic shocks, there will be a prolonged period of working from home / hybrid working and subsequently, a continuation of fewer journeys for all trip types, across all modes.

Under both business-as-usual and a slow covid recovery pathway (with the economy vulnerable to external and internal economic shocks), affordability plays a key role. As public transport fares and fuel prices continue to increase, so too will transport poverty. The cost of rail fares is already prohibitive to many, meaning the social good of improved rail connectivity will not be realised by more deprived and harder to reach communities.

Commented [FF3]: b.How is it possible to make progress against a number of the objectives simultaneously? Do any of the objectives have larger barriers associated with them than others, or do any objectives pose possible barriers to others? Where would you make the trade-offs?

Commented [FF4]: c.What long-term trends in wider society, the economy, and the environment will affect these five objectives over the next 5, 10, and 30 years? Please give evidence to support your response. [Click to see more information.](#)

Commented [FF5]: d.What are the key uncertainties you consider that the Strategic Plan must be resilient to in order to be effective over the next 5, 10 and 30 years?

⁴ https://eeh-prod-media.s3.amazonaws.com/documents/Alternative_Futures_report.pdf

Radical change: high government spend coupled with radical change in policy (strong policy environment with matching funding), directed to support a shift in public attitudes towards health and accelerate progress towards achieving net zero carbon ambitions ahead of the EEH 2040 ambition, as well as the 2050 national government target. This could result in payment systems integrated across modes, with costs set to encourage modal shift to those with better environmental, social and health outcomes, as well as accounting for carbon/negative externalities. There could be improved connectivity to new developments and integrated planning, such as the 15minute neighbourhood concept.

High-Tech: positive public and governmental attitudes to technology and technological change, leading to lower overall and peak travel demand as hybrid working models are accepted and home working increases. Traditional public transport modes, such as bus and rail, could decline, with mobility as a service being widely adopted over private vehicle ownership. The costs of transport could become dependent on the carbon/negative externalities of the mode with integrated payment systems across all modes.

e. Integration with the wider transport system

Our focus must be to provide the user with reliable and affordable choices from the transport system – the rail industry must be viewed as an integral part of that system, not a discrete entity in its own right.

Stations are part of local communities. Their design and how they fit within a place should prioritise access by active travel and local buses, including the management of the accessibility of routes, passenger drop-off/pick-up and parking to encourage shifting to more sustainable modes away from private car.

Where appropriate, stations should function as mobility hubs, which are locations where demand for movement can be concentrated in a way that supports local public transport services. These are usually done via bus provision to drive demand for viable services; however used in a larger urban area context, mobility hubs could be used to establish 'frictionless' interchange between multiple transport modes (primarily bus, rail and active travel) and better integrated multi-modal transport planning. Onward connectivity from the hubs into local communities creates opportunities to encourage active travel to/from local public transport services.

There are mutual benefits to adopting an integrated approach to planning transport. As part of a wider system, rail station catchments can be carefully planned and therefore expanded. Bringing maximum benefits to communities and maximising the potential market for that station. Ticketing, pricing, and information as well as physical first last mile solutions must all play a core part in achieving the ambition.

2: Meeting Customers' Needs

The polycentric nature of the Heartland means that the existing pattern of movements is complex. This makes it even more important to ensure that the solutions put forward for investment are tailored to local needs – EEH as the sub-national transport body is well placed to prioritise strategic transport investment proposals which consider all modes of transport in a place either directly for cross-border flows or through supporting and developing the capability within local authorities.

Commented [FF6]: e.Over the next 5, 10 and 30 years, which steps should the sector take to improve integration of rail with the wider transport system (including walking and cycling) in pursuit of these objectives?

Commented [FF7]: When considering your responses, please take account of the likelihood of changes in levels or patterns of passenger and freight demand over the next 5, 10 and 30 years, what that would mean for the rail system, and what will the interventions be over that period that will provide the maximum value for money.

a. Passenger expectations

With an ageing population, it is important that information and services are accessible to all ages and abilities. Improved accessibility on public transport benefits disabled passengers, older people, and young families, increasing their ability to maintain mobility and better quality of life. It is important that the whole transport system is inclusive by design, allowing people to travel with confidence and ease through well designed fully accessible physical infrastructure and accessible information to help aid journey planning. Access for All type funding needs to be retained to support retrofitting existing stations to an appropriate standard.

Research undertaken by the EEH Business Unit (as part of an EEH-sponsored Masters degree) has demonstrated that users with impaired mobility are less likely to use stations that do not have level-boarding between platform and train when compared with stations that provide both ramp provision and level boarding⁵. We also support Leonard Cheshire's national campaign for all rail stations to be fully accessible by 2030.

With changes in working patterns, the rail ticketing approach needs to be adapted to reflect these. Rolling out smart ticketing should continue to be a key focus of future planning and investment in public transport. Convenience and seamless interchange are the two key concerns for users. We welcome a pricing structure change that helps make it easier for passengers to understand what they will be charged when they complete their journey, and the need for new technology to not inadvertently exclude sections of society.

b. Customer satisfaction

Looking forward, it is acknowledged that the levels of overcrowding previously experienced are not going to be acceptable and therefore the rail network must provide a suitable level of capacity to cater for both existing and future passenger numbers.

Across the region, EEH would like to see greater levels of accessibility and inclusivity available to all transport users (see answer to 2.a).

For EEH, it is critical that the service specifications are right for the requirements of our region, and that our voice is recognised in these policy discussions. Previously decisions have been taken to prioritise long distance London-North services which have disadvantaged Heartland residents.

c. Rail freight

Planning for rail freight needs to be further integrated into both rail industry planning and as part of the wider transport system. We need to ensure that our freight and logistics needs continue to be met whilst lowering the environmental impact of their delivery. Long-distance road haulage carbon emissions are of particular concern and electrification of rail freight would improve the business case to support transition from road to rail haulage.

Our evidence base has highlighted that freight and logistics is one of the largest contributors to carbon emissions. It is also potentially the most difficult to implement solutions to reduce emissions. Encouraging greater use of rail for freight and logistics will provide additional resilience for the business community, while also acting on the need to achieve net zero.

Commented [FF8]: a.Passenger: how will rail passenger expectations, including accessibility requirements, evolve over the coming 5, 10 and 30 years, what will be the driving causes of these changing expectations, and how can they be most effectively met by the rail sector?

Commented [FF9]: b.Passenger: in your experience, how can we most effectively monitor and assess customer satisfaction? What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years? What evidence can you share to support your view?

Commented [FF10]: c.Freight: what evidence can you provide regarding the advantage(s) of transporting goods by rail and what evidence can you share for how that could develop in the next 5, 10 and 30 years? What do you consider to be the most effective role for rail freight in the existing supply chains served and those that it doesn't? How could this change over that period? In answering, please explain and take account of likely developments in technology and in the wider economy.

⁵ Swift et al (2021) Step-free railway station access in the UK: the value of inclusive design. Accessible at: <https://etr.springeropen.com/track/pdf/10.1186/s12544-021-00504-3.pdf>

Rail is most effective when hauling loads between medium and long distances. Our study of the freight and logistics sector identified that a high proportion of road-based freight involves trips over 200-300km. Many of these movements are prime candidates for a shift to rail for the trunk haulage, with the final stage of the journey being delivered by vehicles powered by electricity or other low carbon fuels. Investment in the capacity on our rail network to accommodate even more of the longer distance trunk movements of freight is not just to the benefit of the Heartland but the UK as a whole. Unlocking the opportunity to grow the market for rail freight requires investment in infrastructure to provide the capacity and resilience to enable it to be a more attractive offer for logistics companies.

d. Interventions to support rail freight

EEH would like to see an increase in the number of rail freight movements and its market share within the Heartland, based on rail freight volumes and percentage of freight moved by rail than by road.

Removing the bottlenecks on the Felixstowe to Midlands corridor remains an immediate strategic priority for three sub-national transport bodies (England's Economic Heartland, Transport East and Midlands Connect).

3: Delivering Financial Sustainability

Rail forms part of the strategic connectivity infrastructure within the UK, but it is too often considered in isolation in business cases and investment decisions. Taking account of the synergies between investments in other significant infrastructures (such as highways, digital and utilities) will bring additional benefits to infrastructure owners.

For example, improvements in digital connectivity are significantly cheaper if planned and delivered alongside investment in major transport infrastructure. EEH secured funding to enable the Bicester-Bletchley section of East West Rail digitally-enabled (benefiting both passengers and nearby rural communities). The cost of providing enhanced digital connectivity as a percentage of the overall scheme cost is marginal, and it is about 90% cheaper doing it as the line is constructed than retrofitting. However, unless it is included within the specification of the works from the outset it can be difficult to secure the provision.

4: Contributing to Long-Term Economic Growth

a. Rail's contribution to wider economic growth

Developing stronger inter-regional rail linkages (particularly east-west) ensures that the rail sector better reflects the more diverse pattern of movements of our regional economy. As outlined by the National Infrastructure Commission, the delivery of East West Rail (including the link to Aylesbury) is therefore critical to both our region's economic success and indeed the UK.

EEH worked in partnership with Network Rail to identify and prescribe aspirational service level outcomes for priority journey pairings where analysis demonstrated stronger connectivity by rail would generate a significant economic return on investment.

The EEH region is set to experience transformational levels of economic and housing growth. However, the study showed that the absence of choice in the region's public transport network has limited productivity due to increased road congestion and reduced resilience of the existing transport network.

Commented [FF11]: d.What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years? What are the interventions over that period which will be the maximum value for money, and what evidence can you share to support your claim?

Commented [FF12]: When considering your answer to the question below, please consider how we can support greater efficiency (such as joined up operations), innovation, alternative sources of funding and/or cost base reduction. Similarly, what steps you would propose to improve the efficiency and reduce the cost of infrastructure projects, operation and maintenance, and what evidence you have to support your response.

Where are the most significant opportunities and barriers to delivering financial sustainability in the rail sector over 5, 10, and 30 years and how do we achieve/overcome them? How can we most effectively monitor and assess this? What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years? What are the interventions over that period which will be the maximum value for money?

Commented [FF13]: When considering your answer to the questions below, please share examples of any relevant local, regional and national growth and productivity, and examples of innovations and technology from the UK and abroad, research into trends that may influence rail's contribution to economic growth, and/or new ways of thinking that should be used in or for the rail sector over the coming 5, 10 and 30 years.

Commented [FF14]: a.As Britain recovers from the effects of the COVID-19 pandemic, what evidence do you have for how rail can contribute to wider economic growth over the next 5, 10, and 30 years? What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years? What type of interventions over that period will provide maximum value for money from rail's economic contribution, and what evidence can you share to support your views?

The analysis added that improving the provision of rail services has the ability to address many of the objectives of EEH's transport strategy. An enhanced rail offer can achieve this by boosting economic activity, improving inter-regional connectivity, and contributing to the levelling up of the entire economy in a way that is consistent with legally binding net-zero carbon obligations.

Our transport strategy outlines the key rail interventions required for the region to achieve economic growth while cutting emissions.

b. Rail's contribution to development and regeneration

The EEH region is undergoing significant housing growth, set out in existing local plans.. These new developments will require adequate public transport links to areas of employment to avoid continued reliance on cars.

Rail supports commuting to key economic centres outside the Heartland region, particularly London, which has resulted in the rail network being a series of discrete lines (notably in Hertfordshire), rather than a joined-up system. Our evidence base shows that whilst 40% of all rail journeys made in the Heartland area in 2017-18 were in Hertfordshire, only 21% of these started and finished within our region. The rail network within EEH lacks cross-connectivity that avoids London.

There is opportunity to encourage modal shift for in-region journeys through improvement of generalised rail journey times and new lines within the Heartland region. For example:

- there are no direct rail services between Oxford and Swindon, and the interchange at Didcot Parkway results in a generalised journey time of 1 hour 19 minutes.
- Direct train services between Cambridge and Peterborough take approximately 50minutes, despite being just 40 miles apart.

A joint study between Network Rail and EEH suggests that a 10% headline journey time improvement could be achieved through a range of different interventions with enhanced network capacity and/or capability, including faster rolling stock, signalling improvements, track upgrades and timetable changes.

For further examples and evidence base behind, please refer to the EEH and Network Rail Passenger Rail Study.

c. Innovative ideas for the railway

Stations have the potential to become community hubs. This may include provision of additional facilities – such as meeting/work space, or commercial activities – that give rise to added value. This could be done through drawing on the ideas in *Tomorrow's Living Station*⁶ and at a local level through better support to community rail groups/activities. Experience suggests that in these circumstances the overall level of passenger safety is increased.

Local and regional data platforms containing robust, reliable, and good quality data underpin the mobility innovation ecosystem. In many cases, public sector data is held in silos and can be costly to the transport authority to publish (or open) in a useful way to innovators in academia and the private sector. We support the development and funding of regional and National Transport Access points. Proving access to APIs in standardised formats would rapidly accelerate the development of new digital services; integrated ticketing and Mobility as a Service.

⁶ <https://www.arup.com/perspectives/publications/promotional-materials/section/tomorrows-living-station?query=tomorrow%20living%20station>

Commented [FF15]: b.In the context of enabling development and regeneration opportunities both in the immediate vicinity of stations and within the surrounding area, how can rail best facilitate improvements to places and local growth, through improved connectivity and unlocking commercial activity, housing, and employment over the next 5, 10 and 30 years?

Commented [FF16]: c.What innovative and modernising ideas do you have which would benefit the railway while supporting the strategic objectives? Please give evidence and make reference to how they would maintain or enhance the railway's safety record.

5: Levelling Up and Connectivity

a. Rail's contribution to Levelling Up

When considering the levelling up agenda, it is necessary to consider places and the people who live there at a more granular level – as such, levelling up will require a place and programme-based approach. A key function of transport interventions is to generate economic agglomeration benefits through connecting people, businesses, and places. To achieve this the social, spatial, environmental, technological, and economic context of the place where the need for transport infrastructure investment has been identified needs to be considered.

Whilst the Heartland is regarded as prosperous, there are significant pockets of deprivation and significant variations in life outcomes as a result. More than 800,000 people in the Heartland are currently living in the top third most deprived planning authority areas in England, accounting for 15% of the total population. Thirteen of the Heartland's planning authority districts contain neighbourhoods (LSOAs) which are amongst the 10% most deprived nationally.

The capacity on the West Coast Main Line and the Midland Main Line released by HS2 presents an opportunity to enhance the levels of service and help rebalance the regional economy. For example, Northampton has comparatively poor levels of rail connectivity to Milton Keynes and London despite being an established employment and population hub within the Heartland. Connectivity with the Heartland would be further enhanced through Chilterns train services running through to Old Oak Common to provide a link to East West Rail and significantly increase travel choices for residents and businesses.

Nearly 35% of Heartland residents live in small market towns (under 30,000 population) and their rural hinterlands, compared with 23% in England and Wales. Poor transport connectivity in the Heartland region leaves many communities in rural areas with limited choices: a constraining social inequality resulting in lack of access to opportunities. In addition, in rural areas, the consequences of limited transport provision are felt more severely by households with lower incomes. Currently, the demand for alternative modes to private car in rural areas is low, making public transport solutions harder to succeed using a traditional business case. The wider social and environmental benefits of improved transport connectivity in rural areas needs to be better reflected in the decision-making framework to encourage more appropriate solutions to be brought forward and funded.

Alongside the provision of longer distance domestic rail services to improve regional connectivity (the Heartland spans six of England's most important main lines), rail has a key role to play in improving surface access to airports by public transport, part of the government's improving connectivity through regional airports agenda. An indicator for improving these connections would be a reduction in time taken by public transport to international airports.

Commented [FF17]: When answering your questions, consider the ways in which rail can be used to improve connectivity and local economic growth over the next 5, 10, and 30 years.

Commented [FF18]: a. What evidence can you provide for how the rail sector contributes to the four levelling up outcomes and to improving connectivity in across Great Britain, including through cross-border services? How does this change depending on the type of place where the sector operates (including in cities, towns and rural areas), and what are the most cost-effective ways at the sector's disposal to improve that further during the next 5, 10, and 30 years?

b. Responding to communities

At a national level, transport infrastructure priorities tend to be identified on a network or modal basis with separate nationally significant infrastructure priorities identified for road and rail. This siloed approach to investment tends to lead to the development of specific schemes aimed at solving a particular problem to improving network performance. A more integrated, place-based, programme approach to infrastructure investment that looks across different transport modes and different types of economic infrastructure is needed to identify the right interventions that will maximise the benefits in a particular area, and thus be more accountable and responsive to the local community. This would likely require changes to the current WebTAG appraisal approach to consider multi-modal outcomes, alongside social and sustainable development factors, rather than a reliance on journey time savings to drive BCRs.

Through use of the Experian Mosaic dataset, a cross-channel consumer classification system used for marketing campaigns, linked with first mile last mile considerations, EEH has developed an understanding of the differing transport needs and population characteristics in our region based on personas. More information on this is available in *The Heartland in Context*⁷.

c. Interventions for connectivity

We remain concerned that rail's critical role in enabling the delivery of planned growth is not properly reflected in developing the specification for passenger services. It must do so as part of a truly integrated and co-ordinated approach to investment in our transport infrastructure and the services that use them. We should look to invest in new rail infrastructure and services linked with planned growth ahead of need as a means of enabling more sustainable travel patterns to be possible right from the start, recognising that investment in rail infrastructure and services is a means of connecting people and places with opportunities and services.

We support the work of Network Rail's strategic planning teams (regional and national).

5: Delivering Environmental Sustainability

Realising the full potential of the Heartland's rail network is central to achieving a transport system which supports sustainable economic growth while achieving net zero carbon by as early as 2040 (EEH's ambition).

a. Rail's ambition for environmental sustainability

We require a step-change in our approach to achieve net zero carbon emissions by 2050, and EEH's ambition to reach it by 2040. Our modelling shows that a realistic pathway to decarbonisation must include a highly connected transport system – one that provides better transport information to the user, enables better management of the network, and supports rapid deployment of connected and autonomous vehicles. All new transport-related development should protect and enhance the environment and be based on the principles of net zero carbon, net biodiversity gain, net environmental gain and contribute towards doubling the land actively managed for nature.

Across the region, EEH would like to see:

- a net-reduction in CO₂ emission at 5-year intervals;
- conservation and enhancing provision of ecosystem services from the region's natural capital and contribution to environment net gain

⁷ https://eeh-prod-media.s3.amazonaws.com/documents/Heartland_in_Context.pdf

Commented [FF19]: b.How could the rail industry, over the next 5, 10, and 30 years, become more responsive to, and more accountable to, local communities and passengers? Please give evidence and examples in your response.

Commented [FF20]: c.What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years? What are the interventions over that period which will be the maximum value for money, and what evidence can you share to support your views?

Commented [FF21]: When answering your questions, consider the ways in which rail and the rail estate can contribute to wider national and regional environmental policy agendas, support decarbonisation, conserve and enhance biodiversity, improve air quality and increase renewable power generation.

Commented [FF22]: a.What is a stretching yet realistic ambition for this objective and what measures can we most effectively use to consider success over the coming 5, 10 and 30 years?

- conservation and enhancement of the historic environment
- an improvement in air quality arising from transport related vehicle emissions

b. Interventions to support environmental sustainability

We believe investment should be prioritised not just on the basis of value for money, but for its contribution towards achieving net zero, as well as wider sustainability and environmental goals. Priority should be given to the early electrification of those key rail corridors that are essential for strategic rail freight movements, reducing the carbon emissions of existing movements.

As well as infilling electrification schemes to enable electrical haulage of rail freight services, our priorities for electrification are:

- Midland Main Line,
- East West Rail,
- Chiltern Main Line between Birmingham and London Marylebone.

Experience shows that the cost of retrofitting infrastructure for electrification once a rail link is operational will be significantly higher than if the investment is made at the same time as the initial construction works. The timescales associated with the planning, development and implementation of electrification projects makes the need for a rolling programme of electrification an urgent requirement if rail is to realise its contribution towards achieving the net zero requirement.

c. Investing in climate resilience

It is our view that taking a whole system approach and integrating sectors, such as transport and water management, will capture wider benefits for our communities and public finance by integrating sustainable drainage solutions and flood management risk at early points in scheme development.

Further, our work using the National Infrastructure Systems Model (NISMOS) to identify the most practical pathways to decarbonisation demonstrated, unequivocally, that carbon appraisal must be embedded into all stages of scheme development. For too long, carbon reduction in transport schemes has not received the explicit consideration it requires.

Commented [FF23]: b.What are the interventions over that period which will be the maximum value for money, and what evidence can you share to support your views?

Commented [FF24]: c.How can rail best invest in climate resilience, supported by smarter forecasting, planning and technology, over the next 5, 10, and 30 years and what evidence do you have to support your view?