2021 Consultation feedback report:

Chapter 2: Project-wide matters

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2. Project-wide matters

This chapter provides our responses to the feedback received about matters which are Project- or route-wide in their nature – and not necessarily specific to any one area. It includes a summary of the main points that were raised, and our responses to them.

Where respondents raised comments about specific aspects of our proposals for EWR or they related to one geographical area, these are reported in Chapters 3 to 10. Please refer to Chapter 1 for a table providing details of which chapters contain information about specific geographical sections of the route.

In this chapter we cover general comments received in relation to:

- **The case for the Project:** Cost, general concerns about the Project and suggested alternatives or additions to the Project.
- **Train services and designs:** Potential disruption to existing services, and the consideration of alternative train designs.
- **Traction power:** Train traction power, including electrification of the line.
- **Freight:** How freight services would be powered, their operating hours and their potential impacts on the environment and communities.
- **General environmental matters:** A wide range of general environmental issues – including air pollution and noise, flooding, sustainable use of materials, and potential impacts on the landscape, wildlife and human health.
- **Land:** Compensation to home, land and business owner-occupiers potentially directly affected by the proposed railway line.
- **Local communities:** Our approach to community engagement.
- **Active travel:** Suggestions and concerns around active travel (walking, wheeling and cycling) connections.
- **Construction:** Safety and other impacts during the construction process, as well as the potential impact on existing infrastructure and landowners.

Throughout this section, text in *italics* is our response to the matters raised in your feedback.

2.1 Your feedback and our response

2.1.1 The case for the Project

2.1.1.1 Cost

Respondents expressed concern about the overall cost of the Project and questioned whether it represents value for money. This was raised in general terms, or compared the Project to other infrastructure projects such as High Speed 2 (HS2). There were suggestions that both would go over budget.

There was also some concern that the Project's costs would increase, that they outweigh the benefits, and that the economic benefits have been exaggerated.

We are following Government guidance, procedure and best practice as we develop our business case. This includes, but isn't limited to, the HM Treasury's Green Book and the Department for Transport's Transport Analysis Guidance. Developing the business case for the Project is an iterative process and we'll make sure we have a broad range of evidence to give decision makers a good understanding of the costs, benefits and strategic merits of the Project at each stage.

In this regard, it is important to note that cost is only one part of the business case and is not in itself a determinative criterion. The business case also includes consideration of wider social and environmental impacts. EWR would deliver a range of benefits for businesses, communities and academia throughout the length of the railway, enabling economic growth and supporting a range of public and private sector investments.

We'll learn from other comparable infrastructure projects to inform our approach to delivering the railway, using a range of techniques to estimate costs and monitor and manage risk. This includes applying approaches such as reference class forecasting, sensitivity analysis, quantified risk analyses and optimism bias, in building the commercial case. Value engineering and innovative approaches to design, construction, and operation of the railway, will help us to monitor and manage costs to reduce the likelihood of overspend.

We don't believe the benefits have been exaggerated and we'll present further information about the benefits and cost estimates at the statutory consultation, which we expect to take place in the first half of 2024.

There were concerns that there is no funding available for the closing of level crossings along the existing route should this be required.

The funding for level crossing interventions will be considered as part of the business case for the whole Project and any associated costs of such works would be funded as part of the overall funding for the Project if level crossing closures are required.

2.1.1.2 Cost of Route Option E

Respondents expressed the view that that Route Option E is an inappropriate route as it's one of the costliest options. They felt the construction of the route and the various gradient changes would add extra cost and they questioned whether this analysis, as well as the cost of mitigation measures, have been included in cost projections. Respondents also commented on additional costs the Project may incur, such as the relocation of utilities and infrastructure. Requests were raised to re-assess the decision of Route Option E as preferred route.

We assessed anticipated capital costs associated with route corridor options A, B, C, D and E ahead of the Preferred Route Announcement in 2020. In this assessment we thought about the infrastructure needed to support the railway, in particular the use of embankments and

viaducts, earthworks and different earthwork profiles and gradients (height and slope). This work informed the cost estimates prepared to support the selection of Route Option E as the preferred route in 2020. At the time, Route Option E was estimated to incur upfront capital costs of £3.7bn, which was the second lowest of all route options.

Since we announced Route Option E as the preferred route in 2020, there have been no changes in situation or circumstance that would require us to reconsider our decision.

We'll continue work to assess the costs associated with EWR, including mitigation measures and capital costs, as the design of the route continues.

2.1.1.3 Fares

Respondents expressed concern about the cost of fares for EWR. They felt that unless these are set at a reasonable price, the new train service would be under used. Others expressed concern that prices would rise to try and cover the cost of constructing and operating the new railway. Suggestions included EWR Co subsidising fares to encourage use.

The cost of constructing the route is not linked to fares, however fares will contribute to the operating costs, as they do across the UK rail network. Along with our operating partners, we'd set fares to make sure that the service offers value for money and is inclusive to as many people as possible. Fares would be simple to understand and easy to buy, in line with the rail industry's fares reform programme, which seeks to increase the trust in the railway and remove both economic and convenience barriers to travel.

2.1.1.4 Car travel provides a cheaper option

There were comments suggesting that travelling by car is often a cheaper alternative, especially when car sharing or travelling with family, and provides more flexibility and is a more resilient option over shorter distances.

There are many different factors that influence how people travel, such as convenience, speed, cost, safety, accessibility, and reducing their carbon footprint. When comparing the cost of travelling by car against that of travelling by rail, people must consider the various expenses that this brings, such as fuel costs, parking fees, vehicle excise duty, motor insurance and vehicle maintenance, which can all become a significant total cost.

The cost differential between travelling by car versus travelling by rail is also impacted by the context of the journey, with differentiating factors including the number of people travelling and the distance of the journey. All of the above factors impact whether rail or car travel is the cheaper option.

Some comments also suggested the pandemic meant people were more willing to travel by car and avoid public transport.

During Covid-19, rail demand was significantly reduced as people preferred to avoid public transport for obvious reasons. However, the Department for Transport's latest post-Covid national rail passenger figures indicate that average daily passenger levels on the UK rail

network are at over 98% of pre-Covid levels. We will continue to monitor these figures and to factor them into our iterative business case process.

While no consensus has been formed about long-term rail demand in the UK, we have and will be testing the possible impact a long-term increase in working from home could have on the route – details will be made available at the statutory consultation.

However, EWR is addressing a fundamental lack of east-west connectivity in the region and the benefits should not be considered based on potential short-term fluctuations in demand. It is a long-term investment that would provide sustainable economic growth, would help to attract investment and would connect communities along the route for decades to come.

Respondents also suggested it is easier for disabled people or those who require additional support to use cars rather than trains.

Evidence indicates that trains are an important means of transport for all people, including disabled people. As reported by the Office for Rail and Road, in their 19th January 2023 factsheet, "Rail passenger assists and bookings Rail periods 5 to 7 24 July to 15 October 2022", the latest data indicates a 44.8% increase in the number of passenger assists, and passenger assistance bookings on the rail network in Great Britain during rail periods 5 to 7, compared with the figures from the same period of the previous year. There were 356,500 passenger assists requested during rail periods 5 to 7 of the latest year, which reflects the increase in passenger journeys as rail usage recovers from the pandemic.

We'll undertake further rail demand modelling to understand passenger usage, where people travel to and from, and their needs in making their journeys and will provide more information at the statutory consultation.

Some respondents suggested adding a road deck to the new route to enable greater car connectivity.

Where appropriate EWR has considered constructing the route close to existing roads in a 'shared travel corridor', as we have where EWR runs alongside the new A428 between Black Cat and Caxton Gibbet. However, building additional roads in combination with the railway would be complicated and expensive. It would require the existing railway structures to be significantly increased in size and additional land would be needed. In addition, significant protection and separation would be needed between the railway and road. It would also increase the environmental impacts of the more extensive combined infrastructure. EWR Co does not consider that this additional impact and cost would be justified or desirable.

2.1.1.5 Local business and economy

Respondents expressed concern that EWR would damage the local economy and businesses along the route because of potential impacts on property, or by bisecting communities and restricting customer access to businesses. Respondents also commented on the potential negative impact on farms and on businesses established to support local farms. Additionally, respondents felt that instead of regenerating town centres, such as Bedford, the line would

discourage people by dividing towns and limiting access for local people to shops and services.

We received comments from respondents who supported the perceived economic benefits that could come from the development of EWR. They believed the Project could support local and regional economic growth, encouraging investment and business interaction across the Oxford to Cambridge area, creating jobs, boosting housing development, encouraging tourism, and increasing connectivity to employment opportunities in cities. A few respondents commented that EWR may facilitate expansion of the "knowledge economy", and a few believe that EWR may counter potential negative economic impacts on the east of England from the HS2 development.

National Highways expressed support for the aim of increasing economic growth around the new and upgraded stations. Support was received for EWR on the grounds it will drive economic opportunities across the region, including business growth and reducing reliance on existing transport networks. Requests for further information on the evidence for the closure of level crossings along the Marston Vale line and what the economic benefits would be of the broader proposal would be.

EWR would connect both people and businesses in the towns and villages between Oxford, Milton Keynes, Bedford and Cambridge. It would open up new journeys, cutting travel times, easing congestion on local roads and bringing more jobs within reach of local people. This new railway connection is central to the UK's economic recovery, enabling long term sustainable growth. The region that runs from Oxford through Milton Keynes to Cambridge is the economic artery that makes the UK a global leader in life sciences, technology and innovation which creates jobs and attracts investment for the whole country. It's an area of huge potential – but the area is held back by poor transport connectivity that restricts people's opportunities and constrains growth, risking the UK's long-term international competitiveness.

The Project is designed to deliver positive outcomes for communities, businesses, the environment and the UK economy. EWR would: cut travel times and effectively bring more jobs within reach of local people; open up new areas for businesses to grow through improved connectivity; improve quality of life as more people opt to use greener transport and congestion is reduced; open up new journeys for people through interconnection with other train lines; and make it easier for people to visit friends and family.

We'll seek to further quantify the impact of EWR on the wider economy, specifically its impact on economic growth, investment, jobs, housing, and connectivity across both the area and the country. This will form part of the strategic and economic cases for the business case for the Project.

We'll assess the environmental impacts on important areas such as farmland and countryside at each stage of the design process. Assessment Factor 14 – environmental impacts and opportunities - considers the potential adverse impacts on farm holdings, including the loss or severance of land and the disruption to farming practices. We'll aim to reduce impacts of the Project on agricultural practices and soil resources where possible. To better understand how

the land is used, we'll continue to work with landowners and managers to help inform the design process, and we'll share more detailed proposals at our statutory consultation.

Respondents were concerned that EWR is too focused on a narrow corridor, which they feel is relatively affluent and which has existing strong connections. They suggested that this is not in line with the Government's 'levelling up' agenda.

EWR would support the Government's levelling up agenda by providing the right environment for business growth across an area where new business formation, innovation and entrepreneurship is strong. This would help new business growth and survival. EWR would also provide interchange opportunities for journeys further east, west, north and south, which would assist in retaining businesses and investment in the UK, encouraging further investment and support scaling up across other parts of the country.

Respondents raised concerns the return on investment in Bedford, and particularly Bedford Midland did not support the disruption caused. There were also questions over who would fund the station improvements.

We acknowledge that construction of Bedford station could cause disruption for residents. This was factored into the option selection of the preferred route alignment between Bedford and Cambridge, including the preferred options for the associated infrastructure upgrade works in the Bedford area. The preferred options will be selected following a rigorous process using a range of Assessment Factors; for a description of assessment factors see the NSC documentation, "Technical Report Appendices. C. Assessment Factors: definitions and considerations". Further information will be presented at the statutory consultation.

We are committed to provide value for money for the Project and for public spending having regard to both cost and benefits. A new and enhanced Bedford station would provide easy access to fast and reliable services, link to employment and leisure opportunities in Bedford town centre and support plans to regenerate Bedford. The station would provide sustainable public transport links for new housing along the route of EWR, as well as in other directions through the use of other services and maximise rail-based interchange opportunities with Thameslink and MML. To this end, the benefits of the proposals in Bedford outweigh the cost and are also vital in unlocking the wider economic opportunities for the wider region and the UK.

Government will fund the proposed upgrade works at Bedford station through its funding of the Project.

2.1.1.6 Need and demand

Respondents questioned whether there is a need for EWR to be built and operated. We received comments from respondents in general terms saying there is 'no need' or that 'the business case is not proven'.

There were respondents who questioned the need for EWR and suggested that the economic viability of the Project relies on commuters using the route, and felt that commuter numbers

are likely to change as a result of changing work patterns and increased homeworking following Covid-19. Respondents also questioned whether we've revised the expected passenger demand to consider the impact of Covid-19. Respondents felt that Cambridge and Oxford universities would collaborate via technology in the future, reducing demand for travel.

Comments from respondents identified northern areas that may be more in need of investment in rail services. There were respondents who felt that the money spent on EWR should be used to ensure the whole country recovers from the pandemic.
Some comments support the opportunity EWR offered to change or improve commuting across the region.

EWR would be an investment that's complementary to other activity that the Government may undertake to stimulate growth in areas around the country, enabling economic growth for the UK economy as a whole.

While no consensus has formed about long-term rail demand in the UK, we've started testing the possible impact a long-term increase in working from home could have on the route. Notwithstanding this, EWR would address a fundamental lack of east-west connectivity in the area and the benefits should not be considered based on potential short-term fluctuations in demand. EWR would be a long-term investment that would provide sustainable economic growth, help to attract investment and connect communities along the route for decades to come.

Rail demand dropped during the covid-19 pandemic as certain industrial sectors saw a reduction in business activity and/or increase in business closure. Recent statistics suggest that rail demand across the network is returning to pre pandemic levels. Across the network, demand had returned to 78% of pre-pandemic in the final quarter of 2022. For London/South-East, this figure was 85%.

Although there will always be a degree of uncertainty about the future, the evidence supports the need for rail and the connectivity that EWR will provide benefits not only commuters, but also business and leisure travellers too.

We'll continue to monitor these figures and to factor them into our iterative business case process.

2.1.1.7 General concern

We received a few comments opposing investment in new railway infrastructure. Respondents queried the cost of the service and the value for money to travellers.

We want to provide a much-needed transport connection for communities between Oxford and Cambridge. We'd aim to deliver a safe and secure railway, which is quicker, greener, and cheaper for the taxpayer. The Secretary of State for Transport set out these objectives for us to follow:

- *To oversee and develop the work already underway between Oxford, Bedford and Milton Keynes, and improve the existing rail lines, including additional upgrades to the Marston Vale Line.*

- *To plan a rail link between Bedford and Cambridge and complete the proposed line.*

We're developing a business case to underpin decisions about how the railway would be built and delivered. The business case uses a range of evidence to ensure that money is spent in the most effective way and delivers value for money. This is an iterative process and ongoing work is underway to gather more evidence, both qualitative and quantitative in nature.

We'll work with the Department for Transport to assess opportunities to simplify fares and purchase options for consumers.

2.1.1.8 Requests for additional stations, interchanges and extensions to EWR service

Respondents told us that they felt it was important for EWR to provide services linking Aylesbury to the rest of the new railway.

A branch to Aylesbury is currently out of the scope of the Project that we've been tasked to deliver by the Department for Transport. However, the new railway is being designed so as not to preclude additional services extensions – including to Aylesbury – in the future.

Certain comments expressed support for proposals to reopen Harston station and for building a new by-pass on the A10 road avoiding the centre of the village.

We're aware of the proposals, but these schemes don't fall within the scope of our Project. They're both at a very early stage and aren't committed projects, but we don't consider that the selection of a preferred route alignment for EWR would necessarily preclude them from coming forward. As such, it isn't a differentiating factor between alignments and so does not influence our preferred route selection.

Comments were made suggesting that EWR should include an additional interchange station where it meets the proposed HS2 line between London and Birmingham.

Providing a station on HS2 is out of the scope of the Project. The railway would, though, still provide convenient links to the existing rail network to allow passengers to connect to north-south mainlines, including at Bletchley for services on the West Coast Mainline to Birmingham and the Northwest.

Respondents told us that the ability for EWR services to be extended beyond Oxford and Cambridge in the future was important. Suggested destinations included Norfolk, Suffolk and Bristol. The ability to easily interchange onto existing north-south services across the route was also mentioned as a priority.

None of the alignments that we've proposed would preclude services being extended to these destinations in future. As such this isn't a differentiating factor.

Similarly, all of the alignments would be able to provide convenient interchange onto existing rail services: Great Western, Chiltern and CrossCountry at Oxford, London Northwestern at Bletchley, East Midlands and Thameslink services at Bedford Midland, Great Northern, Thameslink at ECML station and Greater Anglia, Great Northern/Thameslink and CrossCountry at Cambridge.

2.1.1.9 Internet connectivity instead of transport links

Respondents suggested that the provision of upgraded broadband internet for existing residents and businesses along the route was more important than facilitating the delivery of new housing or providing new rail links.

We believe that it's important to provide enhanced connectivity across the route, both digitally and physically. EWR's been identified as a key enabler to delivering economic growth in the Oxford to Cambridge area by the National Infrastructure Commission and would be a key part of the delivery of physical connectivity. This is because EWR will significantly enhance the ability for people to travel using a quicker, more efficient, and sustainable mode of transport for work, leisure and education. This couldn't be achieved by investing in broadband alone.

2.1.1.10 Efficiency and decision making

Comments highlighted that it was important for EWR to make swift progress to reduce the risk that a delay in delivering the new railway might cause further delay to other projects coming forward across the route.

We agree that it's important for the detailed design of the railway to proceed as quickly as practicable to unlock the many benefits and opportunities that the Project offers, not only for transport users but also for other proposed developments. The selection of a preferred route option in 2020 was a key milestone and the selection of an emerging preferred route alignment between Clapham Green and The Eversdens would further advance this aim by allowing us to proceed to the next stage of design prior to setting out more detailed proposals at the statutory consultation.

Respondents suggested that the selection of a preferred route alignment between Bedford and Cambridge should be phased, with an alignment between Bedford and the East Coast Mainline being chosen first.

We've been tasked with delivering the Project in three clear connection stages. Connection Stage 2 (CS2) would provide new services between Oxford and Bedford, and Connection Stage 3 (CS3) would extend the services from Bedford to Cambridge.

Phased introduction of CS3 by splitting the Project at the ECML would introduce further disruption and extend the Project duration, costing the Project more in terms of capital expenditure. Further, the economic benefits would not be fully achieved until both phases were complete as the connection between Oxford and Cambridge would not be in place. As a

consequence, we don't believe splitting the development would benefit the Project or communities in the area.

2.1.1.11 Closure of level crossings

Respondents raised concern that there is no need case for EWR that demands the closure of Woburn Sands level crossing.

We appreciate that level crossings play an important role in local connectivity, and we are exploring opportunities for a more affordable railway whilst still delivering the identified benefits reviewing several factors including the need case. Analysis has identified that Woburn Sands Level Crossing may have the potential to remain open, as confirmed within the Economic and Technical Report. Before preferred options can be confirmed safety risk assessments and traffic assessments need to be completed. The preferred option will be selected following a rigorous process using a range of Assessment Factors; for a description of assessment factors see the NSC documentation, "Technical Report Appendices. C. Assessment Factors: definitions and considerations". Further information will be presented at the statutory consultation.

2.1.2 Train services and designs

We received a variety of comments about train services, covering a wide range of topics. These included concerns about potential disruption impacts and connections or alterations to other train services. Respondents suggested that we should consider the use of alternative train designs.

2.1.2.1 Existing services

We received several comments about the potential connection of EWR services with existing services, and the disruption this may cause. Respondents recommended that we consider industry best practice.

We're very aware of the challenges faced by the integration of EWR with the national network and we'll continue to work alongside others in the railway industry, including Network Rail and the multiple passenger and freight service operators that we interface with across the route, both in terms of design development and timetabling. We'll agree the best way that EWR services could connect with other existing services and improve journey times and capacity. We'll also work together as an industry to ensure that we reduce disruption to all during the construction phase of the programme, communicate regularly and clearly on how the transformation is developing and explain clearly the reasoning behind any periods of temporary service alteration as upgrades are required. We'll continue to work with our industry partners and build on previous industry experience to ensure we deliver the best overall service, connectivity and an optimised timetable.

2.1.2.2 Recommendations for train designs

We received a variety of comments that recommended different train designs, including the creation of double decker, driverless and sustainable trains.

We're proposing to construct the new line based on the specifications used for all non-high-speed lines in the UK, which don't accommodate double decker trains. We're not able to provide for double decker trains as all of the existing infrastructure along the route would need to be modified – such as the height of bridges.

With regards to driverless trains, we don't currently plan to offer these. This is partly because there's currently no precedent for their use in a heavy-rail project but also because their introduction would involve modification to existing parts of the network that would be outside the scope of the Project.

We'll continue to look at how we could introduce new and emerging technologies; driverless trains may be included in future requirements for our long-term fleet but this isn't a viable option at this stage of the Project.

We aim to be a net zero carbon railway, and we'll explore options to introduce new and emerging technologies, such as the use of renewable materials, for our fleet.

2.1.2.3 Rolling stock

Respondents recommended that EWR delivers improved rolling stock, with new modern, smart trains – like existing stock such as Greater Anglia and Great Northern trains. Improvements to on-train facilities, including bike access, toilet facilities and their maintenance and food and drink services were suggested.

We understand our long-term fleet would need to provide a service that meets the expectations of passengers and would need to be efficient and clean – and we'll continue to engage with other train operators and manufacturers about key aspects to take into consideration, including on-train facilities such as bike storage, toilet facilities and their maintenance and catering facilities.

2.1.3 Traction power

We received a variety of comments about traction power, including views on the solution that should be selected for EWR rolling stock and the considerations that would need to be made when determining this. Respondents referenced the environmental impact of any potential solution needs to be considered.

2.1.3.1 Electrification

We received comments from respondents stating that they either opposed electrification or that they didn't think it should be immediately introduced. Reasons for not electrifying the railway included cost, disruption, the negative impact from infrastructure such as gantries and safety risk, including lightning strikes.

We also received comments in support of electrification, with respondents stating they'd be more supportive of EWR if trains weren't powered by diesel. There is scepticism from

respondents, however, that the network wouldn't be fully electrified in time for operation. People are also concerned that EWR Co has decided to not provide line electrification based on costs. Suggestions also included maximising the use of solar panels to increase energy efficiency at stations.

Local authorities from across the route advised that the railway should be considered for electrification. Support for electrification was stated by South Cambridgeshire District Council, Cambridgeshire County Council, Milton Keynes Council, Oxfordshire County Council, Bedford Borough Council and Buckinghamshire Council.

We're continuing to work with the Government to review long term traction options for the railway and electrification is one of the options being considered. We'd need to ensure the railway aligns with relevant policy and legislation for a net zero carbon UK by 2050.

We're committed to running a sustainable railway. This includes the use of greener traction power in the long-term. While diesel trains would be used to enable the opening of the first part of the railway between Oxford and Milton Keynes, we're exploring how new and emerging technologies could be introduced in the long-term train fleet and will be seeking input from bidders across the market and will ensure they understand the company's environmental goals. Work is ongoing to inform a traction power strategy. In addition, we will consider the use of solar panels at stations to improve energy efficiency. Information about this aspect of the Project will be provided at the statutory consultation.

We're considering what the most appropriate solution, including hydrogen power and full or part electrification, would be for the long-term train fleet and infrastructure. We'll consider resilience for all weather conditions, including lightning and any potential future impacts brought about by climate change, as part of the design for any of the infrastructure and its supporting systems.

2.1.3.2 Impact of diesel trains on the environment

We received comments from respondents opposing the use of diesel trains for EWR. Respondents argued that this goes against our net zero objectives and the UK Government's aim of removing diesel trains and policies to respond to climate change. Respondents also commented on the negative impact of diesel on air pollution and noise.

Respondents suggested electrification needs to be delivered immediately, rather than at a later stage. Others suggested that renewable energy needs to be considered for EWR, with hydrogen, battery and solar power all being suggested. Both Buckinghamshire Council and Network Rail believed that if electrification can't be provided, then hydrogen trains would be an alternative. Buckinghamshire Council also suggested using battery electric train services. Network Rail suggested that the new railways should not introduce new diesel stock.

We'll use existing diesel trains on CS1, the section of the railway between Oxford and Milton Keynes, as this allows us to begin operations sooner than would be possible with trains powered by other means, including electrification. This is because additional infrastructure,

such as overhead line equipment, is needed for electric trains to operate, and battery-powered trains are still being developed to improve their range so are currently not suitable.

We have an ambition to be a net zero carbon railway, with reduced emissions, including carbon, nitrogen oxides and particulates. We're working to meet the Government's vision for the rail industry to remove all diesel-only trains from the network by 2040. We'll provide more information about this, as well as detail on the potential impacts of the railway at the statutory consultation.

2.1.4 Freight

We received a number of comments on a wide range of topics relating to freight, including the impact on the environment and communities living along the route, how freight services would be powered, and operating hours. Although we received comments opposing the use of the EWR route for freight traffic, we also received some comments supporting freight movement, including support for improving the freight network between Felixstowe and Nuneaton to relieve pressure at Cambridge Station.

EWR would first and foremost be a passenger service and, while we're planning a passenger route, the Government has asked us to accommodate existing freight services that are already running through areas including Oxford, Bicester, the Marston Vale Line and Bedford.

We've also been asked to make provision for potential future freight demand by proposing designs for the new infrastructure that don't preclude freight operations.

We are working with the industry to understand how capacity constraints across the network, and particularly on the cross-country corridor, might inform the potential opportunities for rail freight to run over the EWR network via Cambridge, and associated programme of investment required to support freight growth nationally. Off-EWR network enhancements are not in scope of the EWR project, however this information is being used to inform our freight strategy, and further details will be provided at the next consultation.

2.1.4.1 Impact of freight trains on the environment

We received comments about the impact of freight trains on the environment, with specific concerns related to dust, pollution, noise and vibration.

We'll seek to reduce any negative effects the new railway, including passenger and freight operations, could have on air quality, as well as any noise and vibration that could be generated by trains, wherever reasonably practicable. We'd assess changes in pollutants, including nitrogen oxides and fine particulates, and the potential effects of noise and vibration as part of the Environmental Impact Assessment (EIA) process.

We'll present emerging findings in the Preliminary Environmental Information Report (PEIR), which will be available at the statutory consultation. The final results of our assessments will be set out in an Environmental Statement (ES) that will be submitted as part of the DCO application.

2.1.4.2 Impact of freight trains on communities close to EWR

We received comments about the effect of freight trains on communities, with specific concerns about the health and wellbeing of people living close to the line and the general impacts on residential areas.

We'll consider specific measures to reduce the impact of the Project in the design of the works. This will include the impacts associated with potential future freight operations on homes, people's well-being, and the surrounding environment during operation. For example, the use of landscaping and screening could reduce visual intrusion, and noise barriers could be used to reduce noise impacts.

We'll continue to consult with communities as our plans develop, including about freight and its potential impacts. We've also set up a number of Local Representatives Groups along the route, to help facilitate discussions about localised impacts. For people that might be directly impacted by the Project, we'll continue to work to identify and reduce any impacts that can't be avoided and work closely with people who could be affected.

2.1.4.3 Powering freight trains

We received comments about how freight trains on the line would be powered and support was voiced for electrification.

We're working closely with the Department for Transport to select a sustainable traction power solution which considers freight as well as passenger services. The impact of that decision on the potential decarbonisation of freight operations is being considered as part of that process, although it is worth noting that EWR will not operate freight trains itself. Whilst a decision has not yet been taken on traction for the railway between Oxford and Cambridge, we'd need to make sure that the railway aligns with relevant policy and complies with relevant legislation related to net zero carbon.

2.1.4.4 Information about freight trains on EWR

We received comments about the amount of information available regarding freight. Respondents expressed concern in particular about what they thought was a lack of detail available in the 2019 consultation and the operating hours of freight trains.

Milton Keynes Council said that more details about freight would be needed in the next consultation.

EWR is principally intended to be a passenger route. However, it is being designed to maintain current capacity for freight trains on the existing railway and we're considering the potential for future growth in demand for rail freight. We've consulted at a formative stage to gather views on emerging concepts and will continue to provide the public and stakeholders with more detail as the proposals for the route are refined.

We don't yet know how much freight would use the railway, as this is subject to government policy and market demand – and we haven't confirmed the exact operating hours for the

railway. As set out in the 2021 public consultation, we currently envisage that EWR could accommodate roughly one freight train per hour in each direction, although the actual number of freight services is a matter for the wider industry and freight operators.

2.1.5 General environmental matters

We received a wide range of comments on environmental matters, from biodiversity and wildlife, drainage and flood risk, and noise and vibration, to impacts on countryside, health, heritage and landscape. Comments were received both in support and opposition to the Project on environmental grounds.

Bedford Borough Council said that the mitigation from the Project would need to cover improved pedestrian, equestrian, cycle access; landscape and nature conservation; enhancement or replacement of sports/recreational facilities; improved access and enhancements to public space; new/enhanced community facilities; and refurbishment of historic buildings/monuments.

2.1.5.1 Air pollution

We received comments about the potential increase in levels of air pollution (including CO_2 emissions) due to the use of diesel trains, increased frequency of train services, increased road traffic due to closures/diversion and travelling to stations and new developments, and the construction and demolition of buildings. Respondents were concerned about the impact of air pollution on their health, especially that of children – given EWR would pass by several primary schools and residential areas. Respondents were also concerned about the impact of air pollution on green spaces along the route and their enjoyment of active travel routes.

Respondents suggested that more should be done to reduce air pollution, such as reconsidering the EWR route and adopting clean technologies.

Respondents also requested more detailed environmental assessments specific to air pollution.

National Highways expressed concern that there may be a worsening of air quality and emissions. Their feedback was in relation to station access points from the Strategic Road Network (SRN) if suitable measures are not in place, and congestion caused from the works to EWR.

We take our commitment to delivering sustainable transport seriously. We're developing the Project in line with UK Government policy and law, such as the Clean Air Strategy, and will continue to consider impacts on air quality (including CO_2 emissions) throughout the design process. We'll seek to work with local authorities to understand the current situation in communities and how to consider relevant Air Quality Management Areas as we develop our proposals.

The PEIR will include information regarding the baseline air quality environment and the relevant air quality standards and targets. The likely risks from construction activities and

potential impacts from operation, including identification of mitigation and control measures, will also be included and will be presented at the statutory consultation. We'll then submit an ES as part of the DCO application, which will assess potential changes in Nitrogen Oxides (NOx) and fine particulates (known as $PM_{2.5}$ and PM_{10}) and dust. This assessment will follow best practice and guidance such as that set by the Institute of Air Quality Management and other recognised bodies.

Our team will look to reduce the impact the new railway may have on air quality as far as reasonably practicable. We'll consider what vehicles and equipment would be used during the construction and operation of EWR, the routes construction vehicles would take to work sites, and how we would manage work sites to avoid and reduce any dust creation.

In 2021, the Department for Transport's Transport Decarbonisation Plan set out an ambition to remove all diesel-only trains from the rail network by 2040. We're committed to running a sustainable railway in the long term, with reduced emissions, including for carbon, NOx and particulates. Therefore, we're exploring how we could introduce new and emerging technologies in the long-term train fleet. We'll share information about this at the statutory consultation.

2.1.5.2 Avoid town centres

Respondents said that EWR should avoid town centres and construct new stations on the periphery of existing settlements, to prevent an increase in car traffic accessing existing town centre stations.

EWR offers an opportunity to radically improve connections to and from local town and city centres across the route, reducing the need for people to travel by private car and bringing people closer to housing, jobs and local services.

Locating new stations on the edge of major towns and cities would undermine this as people would be required to travel further to stations that are remote from local services, employment opportunities and homes – which could lead to increased car traffic. It would also undermine the potential benefits for transport users that the railway would unlock as passengers would need to use connecting services into the town centre, whether by rail or other modes of transport.

2.1.5.3 Noise and vibration

We received comments expressing concern about potential noise and vibration impacts during construction and from EWR trains, particularly freight trains, diesel trains, as a result of gradients/curves in the tracks, and at stations when services are operational. Respondents were particularly concerned about noise and vibration occurring at night, and the impact of this on physical and mental health due to possible sleep deprivation, and on the tranquillity of villages.

Respondents suggested mitigation measures are required such as noise barriers, lower train speed limits in towns/villages, acoustic fencing, maintained silent tracks, use of electric trains or planting trees. However, they were concerned that mitigation measures wouldn't be

sufficient to reduce impacts. They also questioned whether or how we've assessed the impacts of increased noise.

Respondents also suggested that properties within 300m of the railway line should have noise mitigation installed free of charge and that the hours of operation should be limited to 7am to 9.30pm to reduce noise and disruption to local people at night.

Cambridge City Council believed that the preferred route should seek to avoid or reduce sources of rail construction noise in areas previously unaccustomed to such impacts. They suggested that EWR Co should undertake noise modelling to understand how the noise impacts can be prevented or mitigated.

South Cambridgeshire District Council believed that noise impacts in construction and operation should be considered; they also noted that the preferred route should seek to avoid or reduce sources of rail construction noise.

National Highways believed that opportunities should be sought to improve noise for residents affected by the Project.

We recognise that noise from both the construction and operation of a railway is an important issue for local communities. We'll develop a noise policy, which will set out a plan designed to establish and mitigate noise and vibration to seek to avoid any significant adverse impacts on health and quality of life. We don't think it would be appropriate to adopt a blanket policy for noise mitigation as, at this early stage in the development of the Project, it's not possible to identify specific mitigation measures that might be appropriate for specific properties. However, we're committed to developing proposals for measures that would seek to reduce noise and vibration as far as reasonably practicable. This includes:

- *Choice of trains.*
- *Track technology.*
- *Noise barriers – which form one of a number of mitigations that may be appropriate where tracks may create noise and vibration.*

We'll carry out comprehensive assessments and use industry-leading computer modelling, which can incorporate information on local geology to simulate potential noise and vibration impacts along the whole route, to help inform any mitigation required. As stated, the PEIR will describe the likely environmental effects of the proposals and how these could be mitigated. This process involves identifying potentially significant adverse impacts resulting from the proposals, allowing them to be avoided or reduced where possible, as well as identifying any potential beneficial environmental impacts. The PEIR will include information regarding the existing baseline noise environment, together with construction and operational noise limits having had regard to the appropriate guidance and legislation.

Construction and operational noise levels generated from the proposed works will be presented as part of the PEIR at the statutory consultation. An ES will then be submitted as part of the DCO application. Additionally, during the statutory consultation, further detail will

be provided on the freight strategy, and the approach to avoiding or reducing potential noise and vibration impacts from freight trains which may run on EWR.

EWR Co proposed operational hours for passenger services in Appendices A and B of the 2021 Consultation Technical report, which referred to a potential public facing timetable (planned trains in passenger service), to provide some initial guidance. There will also be less intensive train movements as required outside these hours for infrastructure maintenance, inspection, freight, and other activities as part of the national rail network. We will continue to work on the concept of operation to inform the operational timetable.

2.1.5.4 Biodiversity

Respondents were concerned that EWR could reduce current levels of biodiversity in the area – which they consider are already critical – and that the mitigation efforts we propose would not be effective. They commented that our ambition to deliver 10% Biodiversity Net Gain along the route would not be achieved, requesting more detailed information on the steps to achieve 10% Biodiversity Net Gain and asked for an independent review to ensure any general standards being used (e.g. potentially by organisations such as the Chartered Institute of Ecology and Environmental Management) are met. Respondents suggested EWR Co should commit to at least 20% Biodiversity Net Gain, providing green infrastructure and wildlife corridors, restoration or creation of wildlife habitats, and setting up of a Biodiversity Working Group.

Natural England supported the commitment to delivering 10% Biodiversity Net Gain along the route. They supported design features that would maintain and improve ecological connectivity between existing and new features created by the Project.

National Highways stated their support for EWR's net zero ambitions. They also believed that, where possible, a net gain in biodiversity should be achieved.

We're committed to protecting the environment by finding approaches to delivery that either avoid or reduce any negative environmental impacts as far as reasonably practicable. As part of this, we've committed to delivering 10% Biodiversity Net Gain along the EWR route. 10% Biodiversity Net Gain requires that habitats for wildlife are enhanced and left in a measurably better state than they were pre-development. This approach supports the government's 25-year Environment Plan.

We'll continue to prioritise avoiding high value and priority habitats, consider enhancing existing habitats and look at opportunities to create new ones. We'll provide further information on plans for achieving 10% Biodiversity Net Gain along the route at the statutory consultation.

We recognise the importance of ecological connectivity and reconnecting fragmented areas of habitat to strengthen them and promote movement of wildlife. We'll consider green bridges, wildlife tunnels, Sustainable Drainage Systems (SuDS), restoring woodland and creating new green areas and parks in order to mitigate severance of habitats, improve connectivity, and positively integrate with landscape character.

2.1.5.5 Carbon

We received comments raising concerns regarding the potential carbon emissions and the perceived high carbon footprint of EWR. Comments were also received in support, with some saying EWR is an opportunity to reduce emissions associated with car travel.

Respondents expressed doubt that the Project could achieve net zero. They questioned how it aligns with the Government's carbon policy and decarbonisation of transport plans. Respondents suggested that the Infrastructure Carbon Review (published by the UK Government in 2013) should be followed. They also suggested ways to reduce carbon emissions such as the use of renewable energy at stations, the use of hydrogen and battery-powered trains, and opportunities for sustainable travel to stations to reduce car travel (bicycle, foot, electric vehicle infrastructure). They requested more information about the implementation and verification of carbon offsetting initiatives.

Respondents expressed concern over the use of diesel trains and suggested the route should be electrified from the start or use bi-mode trains (i.e., electro-diesel) until full electrification is possible.

Bedford Borough Council believe that new structures should use construction methods and materials that minimise the climate change impact, in line with EWR Co's commitment to deliver a net zero carbon railway.

South Cambridgeshire District Council believe that there should be sustainable construction standards, including electric vehicle charging provision.

Central Bedfordshire Council believe that additional opportunities for carbon neutrality should be explored.

We aim to deliver a net zero carbon railway, in line with existing and developing net zero carbon policy, legislation and commitments at a global, national and local level, which requires the UK to reach net zero Greenhouse Gas (GHG) emissions by 2050. Any decision to grant development consent for EWR would need to demonstrate that it wouldn't have a material impact on the ability of the UK Government to meet its carbon reduction targets.

As detailed in the Consultation Technical Report (Section 3.5) provided as part of the 2021 consultation, we've considered environmental factors, including GHGs, as part of developing the proposed route alignments for EWR. As the Project advances, we'll continue to develop our approach to delivering on our net zero ambition and we'll share further information on this at the statutory consultation.

As mentioned above, the PEIR will describe the likely environmental effects of EWR, both adverse and beneficial. It'll include information regarding the methodology used to assess the significance of the carbon emissions associated with the Project, the carbon management and reduction approaches already in place, and those which would be used during construction and operation. We'll share this at the statutory consultation. We'll then submit an ES as part of the DCO application and incorporate a full whole-life assessment of carbon emissions,

including the embodied carbon of the materials used to construct the railway, which would make up a significant proportion of the total emissions. We'll set out the significance of those emissions against regional, national and/or international carbon budgets and targets.

2.1.5.6 Impact on the landscape

We received a variety of comments about the potential visual impact of EWR on the landscape, mostly as a result of viaducts and embankments. Respondents expressed the view that the railway would negatively affect rural landscapes, riverine landscapes, open views, villages and heritage sites/monuments. Respondents said the visual impact of the Project hadn't been considered and that further information on potential effects and mitigation measures is needed.

Respondents also raised concerns about the potential adverse impact of EWR on the greenbelt and green spaces. Some opposed the Project for this reason, saying that it should not go through countryside. Respondents were concerned EWR would reduce access to walking and cycling paths, create potential light and noise pollution, encourage further urban expansion, and reduce tourism.

Respondents felt that viaducts and embankments would be visually intrusive. They requested more information about what EWR would look like and the potential visual impact, and the mitigation measures planned to reduce any impact.

Some suggestions were made regarding measures that could reduce visual impact such as using cuttings, tunnels, trenching, or the use of materials and finishes that are sympathetic to the local landscape. Respondents also suggested that stations could be considered for placement underground. Respondents said the Project should align with Landscape Character Areas, and felt that we should consider the most valuable countryside assets.

Cambridge City Council said that there needs to be further assessment of the impact to the landscape and explanation about how the landscape impact has been considered in selecting the route alignments. They also suggested an assessment of the impacts of light pollution arising from additional lighting at new or altered platforms, sidings, roads, crossings, and junctions.

Cambridgeshire County Council stated that ways to reduce the impact of high embankments should be considered.

Assessing the potential impact of EWR on the environment is a fundamental part of our design process. We'll carefully consider the setting and context of landscapes and historic views, to look at how the development could be designed to blend in with the local environment. This includes thinking about where to create embankments and where viaducts are potentially required; where landscape earthworks could be used to soften the appearance of embankments and integrate them into the wider landscape context; or how the sensitive placement of appropriate planting could be used to screen views from sensitive receptors or soften the appearance and presence of engineering earthworks.

The PEIR will include information regarding the landscape and visual baseline, and a preliminary construction and operation assessment of impact on landscape character and views. This will be presented at the statutory consultation with an ES being submitted as part of the DCO application.

We'll look at developing landscape mitigation measures that are closely integrated with the ecological requirements of both the Project and the wider area to make sure that the environmental legacy of the works is positive and to support our commitment to 10% Biodiversity Net Gain. Earthworks would be designed to reduce the impact on communities where reasonably practicable, by considering features like Public Rights of Way and heritage features and buildings. We'll continue to explore the use of cuttings and tunnels in areas where they could provide a potential solution for addressing constraints (like crossing roads, public access and environmentally sensitive areas).

We appreciate the concerns around the impacts on the countryside and access to green spaces, and we'll work to identify and reduce impacts and protect the countryside wherever reasonably practicable. To help reduce impacts, we're following the environmental mitigation hierarchy which firstly seeks to avoid significant adverse effects on the countryside and, where this isn't possible, then seeks to reduce impacts. If this isn't possible and if necessary, we would seek to provide compensation for any impacts, where feasible. At this stage we'll primarily focus on seeking to avoid and reduce impacts, by making decisions that help us to 'design out' potential adverse environmental impacts. As mentioned, we've committed to delivering 10% Biodiversity Net Gain along the route, supporting the Government's 25-year Environment Plan.
We'll seek to avoid direct impacts on the most significant nationally and internationally designated environmental assets including National Nature Reserves (NNRs), Ramsar Sites, Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs) and candidate Special Areas of Conservation (cSPAs), Special Protection Areas and candidate Special Protection Areas, Ancient Woodland and Veteran Trees.

We recognise that noise and light pollution from both the construction and operation of EWR is an important issue for local communities and this will be considered, as well as means of mitigation, as we develop the designs for the Project.

For lighting, we'd look at the location and layout of lighting in stations, maintenance compounds and new access routes. For noise, we'd consider the choice of trains, track technology and the use of noise barriers. Through our design work we'd seek to avoid impacts on 'sensitive receptors', such as nearby residential areas or ecological habitats, as far as reasonably practicable. Further information about noise and vibration impacts can be found under 'Noise and vibration' above. Construction-related light and noise will be identified and managed, as far as reasonably practicable, by a Code of Construction Practice (CoCP) or an equivalent document which will be submitted as part of the DCO application.

We'll develop an understanding of what features give the existing landscape its character, and what stakeholders value about the landscape the most. This will help to inform our design work and, where practicable, the landscape design will respond to and reflect those features.

We'll continue to explore the use of tunnels, but we only consider them to be a practical option for areas with particular constraints. This is because they're more complex and expensive to build, operate and maintain than above ground structures, and also because they require additional surface structures for ventilation and exit in case of emergency.

Construction of underground stations is expensive and complex, as it requires the excavation of a large area below ground to accommodate passenger and emergency access and ventilation equipment. Structures would also still need to be installed above ground for access and ventilation. It is highly unlikely that EWR Co will propose new underground stations as part of the detailed design for the Project.

We received comments about planting trees as a mitigation measure to seek to reduce the potential environmental impacts of EWR. Respondents suggested that more new trees should be planted and maintained and that native species should be used. They were also concerned about the removal of mature trees and suggested moving them to other locations instead, requesting more information about replanting locations.

As we've detailed, assessing the potential impact of EWR on the environment is a fundamental part of our design process. We're looking to develop landscape mitigation measures that are closely integrated with the ecological requirements of the wider area to ensure that the environmental legacy of the works is positive and to support our commitment to 10% Biodiversity Net Gain along the route.

Comments were made about the potential interaction between the railway and existing agricultural land and operations across the route.

The potential interaction of the railway with agricultural land and holdings has formed an important part of the process of not only designing potential alignments, but also in the earlier selection of a preferred route option in 2020. The selected route option and the subsequent route alignments which were presented during the 2021 consultation have aimed to reduce the direct impact on the best grade agricultural land, although all of the alignments would have an impact to a greater or lesser degree.

We continue to engage with potentially impacted local farmers. We've been holding farm business interviews, to allow farmers to tell us about how their businesses might be affected by the alignments presented at the 2021 consultation. We'll engage further with potentially directly impacted landowners when details of the land requirements are better known, to see how we can best mitigate any impacts.

2.1.5.7 Impact on wildlife/habitats

We received comments expressing concern about the potential negative impact of EWR on wildlife – including mammals, birds and insects – and their habitats. Several specific locations were mentioned in particular, including protected areas along the route such as Edgewick Farm, Renhold, Wimpole Woods, Eversden or Oxford Meadows, which should be protected. Respondents said we should focus on improving biodiversity and wildlife, rather than seeking to reduce potential impacts.

Respondents suggested measures that enable free movement of animals should be prioritised e.g. wildlife corridors. They also suggested providing wildlife buffer zones between tracks and residential areas; using eco-friendly design (e.g. wildlife tunnels, green bridges); restoring woodland; and creating new green areas and parks that would benefit wildlife.

Cambridge City Council said that ecological impacts should be limited where possible and mitigated on (or close to) site in order to prevent the loss of local multifunctional ecosystems.

South Cambridgeshire District Council stated that further information is required regarding the ecological impacts of the Project; they stressed that existing habitats in the urban environment should be a high priority when considering the route options.

Oxfordshire County Council said that the non-severance of wildlife routes needs to be considered.

We recognise the importance of biodiversity and protecting the habitats of local wildlife, including priority habitats such as woodland and ancient woodland, as well as parks and greenspaces. We'll think carefully about protected species and their habitats when designing the railway. As mentioned, we intend to build on the commitment of 10% Biodiversity Net Gain made in relation to the part of the route already built between Bicester to Bletchley, with an ambition of delivering 10% Biodiversity Net Gain along the EWR route. We'll consider enhancing some existing habitats and look at opportunities to create new habitats. Further information on plans for achieving 10% Biodiversity Net Gain will be provided at the statutory consultation.

We'll seek to avoid direct impacts on the most significant nationally and internationally designated environmental assets including NNRs, Ramsar Sites, SSSIs, SACs and candidate cSACs, SPAs and cSPAs, Ancient Woodland and Veteran Trees. This includes the colony of barbastelle bats in the Eversden and Wimpole Woods Special Area of Conservation (SAC) which is located within the route option area and within 3-4km of the emerging route alignments between Bedford and Cambridge. Throughout 2022 we carried out a number of surveys to better understand the barbastelle population in the area. We'll carry out further bat surveys in 2023.

We'll design a programme of habitat surveys and species-specific surveys to help understand where species and habitats are in the landscape and how they use the landscape so we can avoid, reduce, mitigate and if necessary, compensate for identified impacts in the design of EWR as much as is reasonably practicable. As described, we'll develop a PEIR for statutory consultation with an ES being submitted as part of the DCO application, which will describe the likely environmental effects of the proposals and their mitigation, informed by the results of this survey work.

Our consultation was undertaken at an early stage in the design, and Edgewick Farm, Renhold and Oxford Meadows wildlife area were not identified in these early plans. At the statutory consultation we'll share more information about specific areas and the potential

environmental impact and in the meantime, we'll continue to engage relevant owners/stakeholders.

We will aim to ensure ecological connectivity by connecting and reconnecting fragmented areas of habitat to strengthen them, increase their future resilience, and promote movement and migration of species. We'll consider green bridges, wildlife tunnels, restoring woodland and creating new green areas and parks, to mitigate severance of habitats, maintain historic features, improve connectivity, and positively integrate with landscape character. We'll map where the new railway may cross and border habitats used by other important protected species, such as badgers, great crested newts and bird species, in order to consider how best to avoid impacting them altogether, or to reduce impacts on them as far as reasonably practicable. Our preference will be to integrate the engineering and environmental requirements into a single feature so that both wildlife and people are able to cross the railway.

2.1.5.8 Use of existing track

Respondents suggested using existing track and infrastructure to help reduce disruption and impact on the landscape. Respondents specifically suggested reusing the old Varsity Line to run the railway through.

Alongside Network Rail, we've thought about the potential to use the existing rail network for part of the section of EWR between Bedford and Cambridge.

We considered a number of broad route corridors, including ones that could connect to the existing network further to the southwest – such as between Shepreth and Foxton or near Hitchin. We discounted these because the existing line from Hitchin wouldn't have sufficient spare capacity to accommodate the new train services on top of the current timetable without needing significant infrastructure upgrades, such as extra tracks.

Also, it wouldn't be possible for an alignment joining the existing network near Hitchin to serve Cambourne, which key stakeholders and the public told us was a priority during our 2019 non-statutory consultation.

We've thought about the re-use of the alignment of the former London and North Western Railway route into Cambridge (sometimes referred to as the Varsity Line), but this would present a number of issues, including:

- *The railway would be a lot more complex and expensive to construct as we'd need to build a new bridge to allow the railway to pass under the M11 motorway.*
- *The Mullard Radio Astronomy Observatory utilises part of the old Varsity Line.*
- *There would be significant direct impacts on the new Trumpington Meadows development.*
- *The old Varsity Line approach to Cambridge between Trumpington and Cambridge station has already been re-used for the Cambridgeshire Guided Busway.*
- *The route doesn't serve Cambourne or Tempsford, which are seen as key areas for residential growth.*

- *Large parts of the original railway were only ever single-track and we'd need to build a two-track railway.*
- *At the Bedford end, the route is now used as a leisure trail and is surrounded by associated leisure facilities. It also passes through areas prone to flooding and passes through or close to a number of sensitive sites (heritage/environment).*

2.1.5.9 Environmental Impact Assessment (EIA) process

We received comments about the lack of an EIA as part of the information presented during the 2021 consultation. Respondents said the environmental survey information presented to date is incomplete and requires further work. Respondents also suggested that additional impact assessments, surveys and solutions should be provided by independent experts. Comments were received regarding the lack of light and noise assessments.

For an EIA to be created all details of the Project need to be understood. Once the preferred alignment and design for the Project has been confirmed, a full EIA will be undertaken. We'll make a PEIR available at the statutory consultation, which will include environmental information from both desk-top analysis and on-the-ground surveys. This will include baseline conditions, land use, environmental conditions, historical features, geological conditions, and information on protected species and habitats that could affect the design, construction, or operation of the railway. This document will provide an overview of the potential impacts and mitigation strategies arising from the proposals at that stage of design. Subsequently an ES will be prepared and submitted as part of the DCO application.

We'd also consider the potential effects of light and noise generated by the railway, including baseline noise surveys and assessments of disturbance to ecological receptors, and to local amenity and tranquillity from construction and operational lighting. However, at this stage these can't be considered in detail until the design of the Project has been further developed. We'll seek to avoid the railway being placed close to 'sensitive receptors' such as schools and housing wherever reasonably practicable. If this cannot be achieved, we'll seek to implement mitigation strategies – such as installing noise barriers or using earthworks and landscaping to reduce noise levels, as mentioned above. The findings of the preliminary assessments will be presented at statutory consultation and further developed within the ES being submitted as part of the DCO application.

Part of the EIA process includes procedures for consultation with statutory bodies and other stakeholders including the making of representations by them about the environmental effects of the development. We'll engage with statutory bodies and other stakeholders to build positive relationships, promote best practice, engage on key issues to help inform the design and develop proposals for mitigation.

For further information on our approach to the environment please visit our website*.*

2.1.5.10 Impact on human health

Respondents raised concerns about the impact EWR could have on mental and physical health, due to traffic, noise, vibration, air quality and emissions.

We recognise noise, vibration, increased traffic and air pollution from both the construction and operation of a railway are important issues for local communities. The potential effects of these will be considered as we develop the designs for the Project and we'll continue to engage with local people and communities to understand the arrangements which are least disruptive to people's lives and businesses.

We'll work with local authorities to understand existing and future traffic patterns, as well as the different ways customers could access stations. We'll also undertake traffic modelling to inform our designs.

For more information on noise and vibration please see the 'Noise and vibration' section above. For more information on air quality and emissions, please see the 'Air pollution' section above. As mentioned, a CoCP or an equivalent document will be prepared setting out how we would seek to manage construction-related impacts and will include measures to control aspects including noise and vibration, air quality and construction traffic.

2.1.5.11 Impact on built heritage

Respondents raised concerns about the impact of the proposals on heritage and historic buildings.

Cambridge City Council said that there should be a full assessment of the impact to heritage assets.

Historic England expressed concern about the potential for harm to historic buildings and their settings.

As far as is reasonably practicable, we'll aim to avoid harm to the setting of designated heritage assets, prioritising those of the highest sensitivity such as Scheduled Monuments, Grade I and Grade II listed buildings and parks and gardens. We'll carry out early identification and surveys of those assets most likely to be affected so that EWR can be designed to avoid these or, where this isn't possible, to incorporate appropriate mitigation measures into the design and construction of the Project. We'll also identify opportunities to celebrate heritage assets and consider ways to sympathetically integrate them into the design. To do this, we'll consider the setting and context of historic and cultural assets including conservation areas, archaeology, listed buildings and structures, historic views, and landscapes.

The PEIR will include information regarding the historic environment baseline, preliminary construction and operation assessment of direct impacts and the setting of heritage assets, buried archaeology and historic landscapes. We'll present this at the statutory consultation, and submit an ES as part of the DCO application.

2.1.5.12 Use of sustainable materials

We received requests to maximise the use of recycled, low-carbon, biodegradable and natural materials during the construction and maintenance of EWR, with a preference for those materials to be ethically and locally sourced. Respondents raised concerns about the use of

plastic and cement and said they should be avoided or reduced. Respondents also said all processes and procedures should be ecologically sustainable and safe.

We would seek to sustainably source what's needed for the construction and operation of EWR and to reduce waste as far as reasonably practicable. We'd look at the value of materials, resources and waste throughout the Project's lifecycle, by following a 'circular economy' approach to design, construction and operation that re-uses and re-purposes as much material as possible. We'd develop and implement sustainable procurement procedures and would evaluate the impact of the supply chain before awarding contracts, to consider sustainability of resources appropriately during the design and construction of EWR, as well as into operation and maintenance.

2.1.5.13 Flooding

Respondents were concerned about the potential negative impact of EWR on surface water drainage, as well as a potential increased risk and frequency of flooding resulting from the removal of earth and trees for the construction of the line, particularly in areas where construction would be near existing flood plains. Similarly, respondents were concerned that flooding of rivers would cause damage and disruption to EWR services.

Respondents said improved drainage should be delivered through SuDS. They said that EWR should be built in line with Lead Local Flood Authority (LLFA) standards.

Our work is ongoing in this area, and we regularly engage with the Environment Agency to share information, data and modelling to support this work. We aim to extend this engagement to include relevant LLFAs, Internal Drainage Boards and other key stakeholders. Further information on flood risk and drainage will be shared at the statutory consultation.

In line with the requirements of current national planning policy, we'll undertake detailed flood risk assessments to help inform the design process, especially where the route crosses major floodplains and has the potential to impact on areas of flood risk elsewhere. These assessments will consider flood risk over the lifetime of EWR – accounting and planning for the effects of climate change – and will be informed by hydrological and hydraulic modelling where necessary. The design of EWR, in line with regulatory requirements, would ensure that the railway is resilient to flooding and that it does not increase flood risk elsewhere.

The PEIR will include baseline data supported by surveys, flood modelling and a preliminary construction and operation assessment of impact on surface water, ground water, flood risk and land drainage. We'll present this at statutory consultation and submit an ES as part of the DCO application.

We'll look at ways to reduce flood risk by considering appropriate flood protection measures, including drainage design and flood compensation. Protecting local communities from flooding is one of the Project's key environmental principles. Additionally, in light of the increasing frequency and severity of extreme weather events associated with climate change, we're also reviewing best industry practice and new standards, the condition and capacity of

the railway drainage systems, with a view to reducing the future risk of the proposed railway flooding.

2.1.5.14 Groundwater and surface water features

We received comments raising concerns about potential negative impacts on waterways, wetlands, chalk streams and aquifers, particularly during the construction stage of EWR. Respondents highlighted the need for EWR Co to consult with stakeholders such as Natural England and the Wildlife Trust regarding the potential loss of wetland and river habitats. Respondents were also concerned about extraction of water and risk of aquifer contamination.

We're aware of the high-value nature of the many areas of water environment that the EWR route would either pass directly, or pass close to, including rivers and streams, floodplains, wetlands, source-protection zones and principal aquifers, as well as the many surrounding conservation features that are sustained by the water environment.

We'll identify surface water and groundwater features that have the potential to influence or be influenced by EWR. When assessing possible impacts on the water environment, our assessment will consider effects on both upstream catchments and downstream reaches that might be influenced by the route over the lifetime of the Project, including the potential impacts of pollution generated during construction. Our assessments will consider the effects of development on water quantity (from drought and low flows through to extreme floods), and on water quality during operation and maintenance. In addition, we'll consider aspects such as geomorphology and the wider value that the water environment provides in terms of habitats and biodiversity.

Where we identify potential impacts, we'll apply the environmental hierarchy approach of avoid-control-mitigate-manage, as described previously. We'll consider any identified potential impacts on water dependent habitats, and any proposed mitigation, in close consultation with ecologists, relevant regulators and key stakeholders, in accordance with relevant legislation and best practice guidelines.

2.1.5.15 General opposition on environmental grounds

Comments were received from respondents in general opposition to EWR for environmental reasons, namely disruption and damage to the environment and the potential negative effects of this on both people and wildlife.

We fully appreciate concerns around the potential environmental impacts of EWR. We'll consider the importance of environmental sustainability in the activities and the decisions we make, with the aim of designing, constructing, operating and maintaining the railway in a responsible manner that reduces negative environmental impacts and realises opportunities to enhance the environment. We aim to be a net zero carbon railway and to contribute to the wellbeing of our communities and customers. We'll undertake an EIA in accordance with UK legislation, which will be informed by associated environmental assessment and environmental survey activities.

We'll identify and manage construction-related impacts on the environment as far as reasonably practicable. We'll submit a CoCP or an equivalent document alongside the DCO application which would set out our approach to managing and mitigating construction related impacts including; measures to seek to control impacts related to construction noise and vibration, air quality, contaminated land, ecology, historic environment, construction traffic, tree protection, surface and groundwater management, waste management and general site operations.

Our team will continue to engage with local people and communities to understand the arrangements which are least disruptive to people's lives and businesses. We'd seek to develop proposals with appropriate measures to protect the flora and fauna of the corridor through which construction works would take place, which could involve the use of physical barriers and would occasionally require the relocation of species to an alternative location.

The longer-term environmental impacts will also be considered in the design of the railway by including measures that would seek to reduce the impact of the Project on the surrounding environment during operation. This could include landscaping and screening to reduce visual intrusion, and bunds or noise barriers to reduce noise.

2.1.5.16 General support on environmental grounds

Respondents expressed their support for EWR on environmental grounds, saying it would provide more sustainable travel opportunities, connect communities and promote sustainable growth.

We were pleased to see comments from respondents about their support for EWR, the route options, and the specific proposals.

2.1.6 Land

We received comments that raised concerns about the compensation that would be provided to the owners of homes, businesses and land directly affected or in the vicinity of the proposed railway line.

For the owner-occupiers of properties which would need to be acquired in part or wholly to construct the railway, unaffected market value compensation would be provided in accordance with the Compensation Code as explained in the Guide to Compulsory Acquisition and Compensation on our website.

Owners of properties in the vicinity of the railway, where no land is taken as part of the Project, may be entitled to compensation when the railway is in operation under Part 1 of the Land Compensation Act 1973. This factors in the devaluation of property due to effects such as noise.

We'll look at ways to reduce the impact of the construction and operation of the railway as part of the design development process. Once a detailed design has been created, we'd

discuss the potential impacts with the owners of land and property likely to be required for the Project and seek to mitigate these where possible.

Property owner-occupiers whose property is required for the railway may qualify for statutory blight. More information is available in the Guide to Compulsory Acquisition and Compensation.

If a qualifying business is located where land or a section of land is required by the Project, the business owner may need us to acquire the whole plot if the rest is deemed incapable of reasonable beneficial use. The landowner would be able to engage a surveyor to advise the owner of their options and to act on their behalf in relation to the compensation claim. The surveyor's reasonable costs would be reimbursed as explained in the Guide to Compulsory Acquisition and Compensation on our website.

We've introduced a Proposed Need to Sell (NTS) Property Scheme to support property owners who have a compelling reason to sell their property but are not able to do so other than at a substantially reduced value, because of EWR. Details of the Scheme including the full eligibility criteria are set out on our website*.*

Applicants would need to meet five criteria, which includes providing evidence that they currently have a compelling need to sell. The Proposed Need to Sell Property Scheme reflects public consultation feedback and NTS consultation feedback, both received in 2021. More information can be found in the Proposed Need to Sell Property Scheme Guidance and Application Form on our website*.*

2.1.6.1 Existing infrastructure

Respondents suggested that we shouldn't impact more green space and houses and should instead work within existing developments.

Cambridge City Council suggested that EWR explores opportunities for infrastructure that could share the corridor, such as potable water pipelines.

South Cambridgeshire District Council said that the Project presents an opportunity to explore ways to maximise infrastructure connections. They were, however concerned about the impact to existing infrastructure for communities.

National Highways advised EWR to integrate stations with roads into the Strategic Road Network (SRN) to reduce congestion and improve journey reliability.

We're aware that our proposals may affect people's homes and businesses although the Project would only take land that is essential for the construction and operation of the railway. Inevitably in making a new rail connection between Bedford and Cambridge we would need to acquire green space. Our reasoning will be set out within the ES which will form part of the DCO application.

The creation of a new travel corridor between Bedford and Cambridge creates a potential opportunity for accommodating other infrastructure, such as utilities connections. We'll explore the feasibility of such opportunities at the next stage of design.

The construction of the Project will impact on existing utilities connections and we'll work closely with utility providers to identify these impacts, and to include for all necessary alterations or diversions within our work. We would seek to reduce inconvenience for the public during construction through the way that we plan our work; a CoCP or equivalent document will set out our construction methodology.

As we develop designs for stations, we'll consider the way that they are accessed by all types of user, including those travelling by car. A Transport Assessment will be prepared to inform our designs and this will form part of our DCO application. Throughout, we'll work with National Highways to ensure that potential issues of congestion and journey reliability are properly considered.

2.1.6.2 Impact on farmland

Respondents were worried about impacts to the 'high-grade' farmland that EWR would run through and how this could affect local farmers' ability to farm. They mentioned land take, limited access to fields, partition of fields resulting in irregular shapes, potential devaluation of surrounding farmland and degradation of land quality, all of which could negatively impact farming. Respondents also requested detailed information about compensation for landowners.

We understand the importance of agriculture to the communities the railway would serve and we want to find solutions that avoid, reduce or mitigate adverse impacts on land use and agricultural holdings as far as reasonably practicable.

At each stage of the planning and development process, we will assess the environmental impacts on important areas such as agricultural land (including best and most versatile (BMV) land) and the countryside. As part of this, we'll explore ways to reduce the impact of the railway on agricultural land holdings and soil resources. To better understand how the land is used, we'll continue to work with landowners, occupiers and land managers to gather information that will help inform the design process. Where land needs to be acquired, or is proposed to be acquired, the Compensation Code sets out the circumstances in which compensation is payable, a Guide to Compulsory Acquisition and Compensation is provided on our website*.*

The PEIR will include information regarding baseline soils environment, including presence of best and most versatile (BMV) land, and existing agricultural and forestry land use and agricultural land holdings. We'll present the potential impacts and likely effects on the baseline soils environment arising from disturbance and displacement and mitigation, such as outline plans for soil management during construction, both as part of the PEIR and at the statutory consultation.

Potential impacts and likely effects on agricultural and forestry land use and agricultural land holdings arising from land-take, demolitions of key agricultural infrastructure, severance and changes in accessibility all contribute to our consideration of Assessment Factor 14 – environmental impacts and opportunities, which is described in the 2021 Consultation Technical Report. *We'll present potential impact and likely effects as part of the PEIR and at the statutory consultation. We'll then submit an ES as part of the DCO application.*

2.1.7 Local communities

We received comments relating to local communities on a variety of topics, including requests for more detail on the benefits and impacts of the Project and its construction, as well as views on how we should approach engagement with communities. We also received comments from respondents expressing their general support for the proposals and the wider Project – and the benefits it would deliver to people in the area.

2.1.7.1 Approach to engagement

We received comments from respondents sharing concerns that the community has not been kept informed about the development of the Project and that the public's views haven't been taken into consideration. Respondents suggested that further, more varied approaches to consultation and engagement should be used, including interviews and focus groups, to gather the views of local people.

We take the views of local people, communities, and their representatives seriously and we'll keep listening to feedback so that we can build a railway that meets the needs of the communities we serve and for the UK as a whole. All feedback received from public consultation has been considered and used to inform the development of the railway design.

So far, we've held two phases of public consultation – one in 2019 and a second in 2021. A Public Feedback Report *was published in March 2020 that gave a summary of the 2019 consultation responses and how that feedback had been considered. We've taken a similar approach with this document for the 2021 consultation, and we expect this approach will also be taken for any future rounds of consultation.*

We're committed to making sure communities have the information they need to help make informed decisions about our proposals, with a level of detail appropriate to each stage of the Project's development. We've continued to listen to all Project stakeholders, including community groups, since the end of the last public consultation in June 2021. We've also been actively encouraging people to get in touch to share their views and comments.

We already communicate with communities and individuals in a number of ways, including a regular email newsletter, public information events, the Project website and via local media. We're also engaging directly with individual property owners/occupiers of land that may be directly affected by our proposals. We'll keep communications channels under review to make sure it's easy for people to receive updates on the company's work as the Project progresses.

Alongside this ongoing engagement there will be more opportunities for communities and other stakeholders to comment on the proposals during the statutory consultation, which will be undertaken before the submission of the DCO application. The Planning Inspectorate will then also carry out a public examination of the application, giving further opportunity for comment.

2.1.7.2 Benefits to local communities and businesses

We received some comments suggesting that EWR Co should hold discussions with local people about how we'll support and benefit local communities, businesses and services.

Bedford Borough Council said that there needs to be improved communication with key stakeholders and local communities.

Suggestions included that EWR Co should support setting up Community Rail Partnerships to manage maintenance of the new and existing EWR stations. Further suggestions included making space for small businesses at station locations, in particular cycle shops to enable repairs for commuters.

We're aware people want to understand the specific benefits EWR would provide their local communities and businesses. As the design develops, we'll be able to provide more detail on what these benefits would look like, and we'll work with local authorities and communities to refine and shape these plans.

More broadly, we'd offer new, reliable, sustainable transport for people and businesses across the entire area and would improve connectivity between key towns and cities including Oxford, Milton Keynes, Bedford and Cambridge. EWR would significantly reduce journey times and provide safer, cheaper transport that's better for the customer, greener for the environment and would provide value for the taxpayer.

Oxford and Cambridge are home to leading universities, life sciences companies and a manufacturing cluster known for high-performance technology and motorsport engineering, but people and businesses in between these two cities are being let down by a lack of transport solutions. EWR would bring this vibrant mix of communities an affordable and sustainable public transport alternative, linking people with jobs and access to new homes across the area. The National Infrastructure Commission has estimated *that creating these transport links and supporting the entire area would be worth nearly £80bn extra a year to the UK economy.*

Regarding stations, we have not yet made a decision on the management and maintenance of stations along the route but would expect the operator to oversee maintenance. We acknowledge the opportunities for stations to be a focal point in the communities we serve, and we will consider how space at the stations can be used to support small businesses, community amenities, as well as provide value-added services (such as coffee shops, cycle hubs) for rail customers.

It was suggested that as much of the new infrastructure and rolling stock as possible should be built in the UK.

In its design, construction and operation the Project creates a significant opportunity for UK businesses, as well as for people and regional businesses closer to the route. EWR is committed to maximising this as far as is practicable through:

- *The procurement strategy that we develop.*
- *Our approach to engaging with industry, to raise awareness of the Project and its opportunities, as well as explaining routes to entry.*
- *The requirements we will place within larger contracts to promote opportunities for the local supply chain and local people.*
- *The way EWR communicates the benefits of the Project as well as the opportunities these create locally.*
- *The way EWR will signpost access to employment, training and supply chain opportunities for people local to the Project.*

2.1.7.3 Access to local amenities and interaction with other developments

Respondents commented that connecting town centres directly was important, so people can access local facilities. It would also mean that they can make trips without the difficulties caused by traffic and parking in built-up areas.

Connecting to the city and town centres of Oxford, Bedford and Cambridge formed a key part of the decision to select Route Option E and has also been considered in the assessment of potential route alignments in respect of Cambourne. We agree that locating our stations in the heart of communities offers the best opportunities – to provide access into settlements along the railway, and for those who live and work there to travel elsewhere without the need to use a private car.

Centrally located stations help to make EWR services an attractive and competitive choice, with convenient access to homes and businesses. The preferred alignment options that we've identified fit with this aim by serving not only existing town centres but also by locating a new station on the East Coast Mainline in a place that could serve new development in this area.

Respondents commented that serving the new Cambridge South station (being delivered by Network Rail) would allow direct, easy and quick access to the Addenbrooke's Hospital and Cambridge Biomedical Campus sites.

We considered how EWR could serve the new Cambridge South station directly in our selection of an alignment that approaches Cambridge from the south. This was considered to be significant as it means that EWR services could stop at the new station – providing convenient access to Addenbrooke's Hospital, Cambridge Biomedical Campus site and the wider area – before continuing to Cambridge city centre.

Respondents said it was important for us to consider current housing projects and proposals across the route when designing the railway, including at Southeast Milton Keynes, Bourn Airfield and in the Marston Vale.

In designing route options for the railway to date, we've stayed informed about proposals for new housing across the route, including in these locations. In selecting the preferred route option following the 2019 consultation, we took account of how the new railway could serve developments along the route. We considered the potential impact of the Project on existing housing – including housing that has been granted planning permission and is in the course of being built – when we looked at potential route alignments.

We've also thought about how the railway might best support future housing development by providing cost-effective, sustainable and accessible public transport alternatives for residents of new settlements. This built on the preference for Route Option E and has formed a part of the approach to selecting a preferred route alignment.

Respondents suggested that the Project represented an opportunity to provide a shared corridor for utilities infrastructure. They placed emphasis on the possibility of new water infrastructure to deliver sustainable supplies and reduce extraction from the chalk aquifer in south Cambridgeshire.

None of the alignments we've considered would preclude exploring these opportunities so this isn't a differentiating factor. We'll consider the potential for the incorporation of utilities within the rail corridor at the next stage of design.

2.1.8 Active travel

We received suggestions that EWR Co should promote active travel connections to stations. Respondents raised concerns that the train line could impact the active travel routes that are currently used.

Cambridge City Council said that measures should be put in place by EWR to consider how walking, cycling, and public transport connections to stations would be improved.

Cambridgeshire County Council suggested providing high quality cycle links between the Central Section stations and existing settlements.

Natural England expressed support for sustainable transport options and the provision of green infrastructure such as walking and cycling routes.

We will seek to ensure that public transport connectivity and the ability to use new and improved active travel modes are appropriately considered and provided for in the development of the route, and in particular close to new and existing stations. This could then serve as a catalyst for greatly improved active travel infrastructure nationwide, bringing associated health and economic benefits to communities.

Options for walking, wheeling and cycling could include new and improved routes, new or altered bus services and on-demand services that could provide a door-to-door service between the station and a customer's destination, timed to connect with the train service. This would also include cycle storage requirements at stations. More information will be shared at the statutory consultation.

2.1.8.1 Alternative transport modes

Respondents highlighted the importance of providing convenient multi-modal means of access between stations, existing settlements and future development sites to facilitate the use of different means of accessing the railway and avoiding unacceptable increases in motor traffic. Some suggested locating stations outside built-up areas would better achieve this.

EWR stations would seek to integrate into the wider transport network across all modes – including bus, pedestrian travel and cycling. We'll ensure that public transport connectivity and the ability to use new and improved active travel modes, such as walking, wheeling and cycling, over personal vehicles are appropriately considered in the development of our station designs.

Regarding station location, alignments serving existing town centres and railway stations generally perform better in terms of transport connectivity and mode shift than stations remote from town centres. This is because they make interchange with other transport modes (rail and non-rail) easier and mean more existing homes and businesses are located within easy distance for cyclists and pedestrians.

Respondents said that it was important for the railway to be designed to encourage cycling for local and longer-distance trips, by potentially providing cycle paths, for example, alongside the new track.

The integration of the new railway into the local transport network, including cycle paths, has formed a key consideration in the decision-making to date and in selecting Route Option E – which would directly serve existing transport hubs such as Bedford town centre and Cambourne. All route alignments offer opportunities in this regard, which means it has not been a material differentiating factor in our selection of the preferred alignment.

While further design work is required, we've placed a particular emphasis on how we could encourage people to access the new EWR stations by cycle. This will require further consideration to identify the correct solution for each local area, which might include new bridges or underpasses so people can cross from one side of the railway to the other, or potentially cycle paths running alongside the railway line where these would integrate into the wider area and improve connectivity. We'll develop our thinking at the next stage of design and present information for comment at the statutory consultation.

Respondents told us that it was important that the provision of new EWR services did not lead to unacceptable increases in private cars accessing the stations, especially in built-up areas. Some suggested that more stations should be built to facilitate local train services with more closely spaced stops.

We consider that the best way to provide competitive journey times, while also encouraging people to use our services without reliance on the private car, would be to use a combination of centrally located stations with good access to other transport modes and connecting train services, as well as implementing measures that would integrate the new EWR stations into the wider local transport network, including bus routes, footpaths and cycle paths.

Respondents said that it was important for the railway to be designed to encourage walking, wheeling and cycling, not only for local connections but across longer distances as well.

The potential for new EWR stations to provide connectivity with existing local transport networks, forms a key part of our approach to assessing and selecting preferred station locations. This includes examining ways in which the railway could deliver enhancements to existing walking, wheeling and cycling infrastructure. Our preferred alignment would locate new stations across the route in locations that would help to advance this aim, including connectivity with town centres.

2.1.8.2 Interaction with local road networks and parking facilities

Comments were made about whether EWR should provide stations as park and ride facilities to reduce motor traffic in town centres, although concerns were also raised as to how facilities of this nature could affect existing public transport provision.

Some respondents stated that they felt it was more important to prioritise other networks and transport solutions locally over EWR, including the A428 upgrades, investment in the bus networks across the region and other innovations, such as driverless taxies, or a light rail solution, particularly for Cambridge.

We've considered the need to strike a balance between how the Project accommodates customers who need to use a private car to access stations, while not discouraging the use of active modes for first-mile last-mile access or adversely affecting the viability of other public transport alternatives.

While we haven't discounted out-of-town park and ride sites from our overall strategy, these can remove customers from existing public transport, such as rural bus routes. They can also be inaccessible through active travel modes, which means that they wouldn't provide the multi-modal means of access to stations and settlements we know is important to respondents. EWR Co will continue to explore opportunities of integration with potential future transport schemes, such as the Cambourne to Cambridge (C2C) scheme, including the travel hub/park and ride site proposed at Scotland Farm.

Overall, we think the most appropriate way to encourage the use of sustainable transport modes to access EWR services would be to locate stations in town centres close to existing public transport infrastructure, such as bus routes, and within easy walking, wheeling and cycling distance of homes and businesses. The same applies for those areas where a new EWR station could support new development, such as at Tempsford.

EWR is a strategic region wide transport solution and would exist alongside other local transport schemes. It is not considered that EWR is being prioritised ahead of other local transport solutions, including the A428 Black Cat improvement scheme which is currently being progressed by National Highways. EWR is an integral part of Local Authorities' Transport Strategies across the region, and we will continue to collaborate with LA's and England's Economic Heartlands (in their role as Sub-National Transport Body) to ensure delivery alongside, and complementary to other transport solutions. EWR will not preclude investment in the local bus network or the development of other innovative transport solutions.

EWR Co is being developed as a heavy rail solution in order to deliver improved connectivity required in the Ox-Cam region. Potential light rail alternatives were considered as part of the Affordable Connections Project, but would not achieve the key strategic objective for the Project to unlock the significant economic opportunities for the region and the wider UK.

2.1.9 Construction

2.1.9.1 Approach to construction

A number of comments were received about concerns that construction methodologies were not yet set out. This including some comments related to bridge design, track design, machinery types as well as comments related to materials and material choice throughout design and construction.

The construction of the project involves relatively straightforward and well-understood construction practices. The environmental impact of and safety during construction and operation of EWR will be assessed to inform the development of the design and will be presented in an early stage in the Preliminary Environmental Impact Report (PEIR) at statutory consultation and followed with the development of the Environmental Statement (ES) that accompanies the Development Consent Order (DCO) application.

To set out how EWR Co will manage the construction of the East West Rail project a Code of Construction Practice (CoCP), or similar document, will be developed. The CoCP will contain provisions aimed at reducing disruption to local communities and mitigating impacts on the wider environment.

We will work closely with its supply chain to ensure that land used would be secured and maintained appropriately throughout construction. The CoCP will include information about how land would be properly managed during the construction phase, such as keeping compounds secure, avoiding contamination from worksites into neighbouring land, keeping areas near compounds tidy and free from mud or litter, along with other measures designed to reduce the impacts of construction on local communities. Compliance with the CoCP will be secured through a Requirement of the DCO.

A number of comments raised concerns that construction hours would be too long, and potentially include night-time work. Some comments were received that suggested EWR Co

should set out likely construction hours and consider in advance how this would be communicated to communities and households along the route.

The working hours at the worksites would depend on the construction activities being undertaken. The works would be constructed over extended periods of time and there will be variations in the hours of working between sites for practicality and safety reasons. This will be developed further following the consultation process and agreed with authorities and approval bodies.

The likely working hours for the various construction works inform the programme and consenting process. Flexibility needs to be retained to ensure that the works can be delivered on time, however we are committed to ensuring that the programme for construction works is sensitive to affected stakeholders, including landowners and the general public. We will provide more information on this construction in the Code of Construction Practice (CoCP), or similar document.

2.1.9.2 Safety in design and during construction

We received a number of comments about the importance of safety during construction of the railway. Specific concerns were raised about the safety of construction workers and members of the local community. Comments were also received from the public and stakeholders about the need to ensure the design of the railway connection is safe.

National Highways notes that consideration must be given to safety implications of all elements of design to ensure users are safe on the Strategic Road Network (SRN), and so drivers aren't distracted by new EWR infrastructure. They also believe the designs should consider future climate change and incorporate resilience measures to reduce the effects of climate change to within acceptable levels.

We take the safety of its people, contractors, landowners, residents, communities and the local environment seriously and is legally required to put in place and enforce safe working policies.

The detailed design will be carried out in accordance with recognised industry standards published at the time of detailed design to provide a high level of safety. We will continue to adapt the design to incorporate advances in design and technology that emerge in the future.

We have considered safety of the public and workers at all stages of design, and this will continue during construction and into operation and maintenance.

The design would consider the safety implications to ensure that users are safe on the SRN, including the consideration of drivers on the SRN. We'd consider potential future impacts brought about by climate change, as part of the design for any of the infrastructure and its supporting systems.

To show how we'd manage the construction of EWR, a CoCP or an equivalent document would be developed. This would give information about our approach to managing and mitigating

construction related impacts including standards to maintain safety and security, as well as provisions aimed at reducing disruption to local communities and mitigating impacts on the wider environment.

2.1.9.3 Impacts during construction

Respondents suggested that consideration should be given to the methods of construction to reduce negative impacts to the area. Respondents suggested using low CO_2 concrete or lime-based technology. Concerns around dust, spoil and the impact of earthmoving from construction of the elevated embankment in particular were also all referenced by respondents. Respondents also made some comments relating to the environmental impact of construction, particularly in areas where no infrastructure currently exists, and how the work will be made safe for the local environment and communities.

We're aware construction activities and traffic could have an impact on local residents and businesses, such as through dust or noise – and we'd manage this appropriately in accordance with best practice for projects of this type. We'd also consider lessons learnt from the construction of Connection Stage 1 (CS1) in order to improve our approach. The CoCP (or equivalent document) would give information about provisions aimed at reducing disruption to local communities and mitigating impacts on the wider environment.

We've also tried to make sure that when developing designs for the railway there is a good 'cut-fill balance' across the route. This means spoil or earth that's extracted from the ground would be used elsewhere on the Project and not transported off-site to landfill. This could assist with management of excavated material by enabling greater volumes of this to be re-used during construction. Our aim would be to help reduce cost, traffic disruption and embedded carbon by reducing the amount of spoil that must be disposed of elsewhere and the volume of material that must be imported in order to construct embankments. The preferred route alignment that we've chosen for Section D performs well in this regard.

The environmental impact of and safety during construction and operation of the railway and its associated infrastructure will be assessed to inform the development of the design and will be presented in an early form within the PEIR at the statutory consultation and within the Environmental Statement (ES) that accompanies the DCO application.

Details of the specific measures we propose to put in place – including lorry routing and spoil management – would be set out in a CoCP or an equivalent document which we'd submit as part of our DCO application to authorise the construction, maintenance and operation of the railway. This will include appropriate measures to secure the safety of local communities whilst works are carried out.

We received a number of comments suggesting we should discuss the potential impact of footpath and road diversions during construction works with local communities.

Any proposed footpath or road closures or diversions during construction would be subject to further consideration as the design develops. We'll continue to engage with local communities and their representatives as we develop our proposals to better understand the potential

impact of any footpath or road diversions and seek opportunities to avoid or reduce the disruption caused.

During the statutory consultation there will also be opportunities for local communities and others to provide further comments on the potential impact of our proposals on local access.

During construction we'd follow established protocols and provide signage and communications in advance of any diversions in line with the expectations of the relevant local authority. We anticipate that the proposed approach to each diversion or closure would be set out in a CoCP or an equivalent document.

Some respondents expressed concerns about the impact of construction on public rights of way.

We will prepare a Traffic Management Plan (TMP) following consultation with the relevant highway authority or other bodies. The TMP would include measures aimed at maintaining safety for road users and reducing the impacts of construction traffic, such as setting out the timing of traffic management measures.

During construction, we would seek to reduce impacts on PRoWs. Where a PRoW is affected, we would consider options that include closing the route temporarily, providing a temporary diversion, or opening an alternative permanent route before the existing one is closed. How the impacts are mitigated would depend on factors such as the type of works in the area and the safety implications. We expect to set out impacts at an early stage with a PEIR at statutory consultation with more detailed findings presented within the ES submitted as part of the DCO submission.

Some comments raised concerns about the costs and disruption likely to arise as a result of changes required at Bromham Road.

We acknowledge that construction of a new span of Bromham Road Bridge to accommodate the new EWR track north of Bedford could cause disruption for local residents. This was factored into the option selection process in the decision to select the preferred route alignment, including the associated works required to upgrade infrastructure in the Bedford area such as the Bromham Road bridge.

Our initial assessment confirms that the benefits of the proposed modification of Bromham Road Bridge outweigh its cost. This work would enable construction of two additional tracks east of the existing MML tracks and would ensure that we could provide a frequent, regular and reliable service to meet initial forecast passenger demand without constraining existing passenger or freight services on the MML. The preferred option will be selected following a rigorous process using a range of Assessment Factors; for a description of assessment factors see the NSC documentation, "Technical Report Appendices. C. Assessment Factors: definitions and considerations". Further information will be presented at the statutory consultation.

2.1.9.4 The impact of construction on existing infrastructure and landowners

Some comments were received with concerns about EWR Co's impact on land access for landowners and farmers during construction.

While EWR may impact agricultural land and access for farm vehicles during construction we will seek to reduce and mitigate potential impacts by working closely with landowners as designs progress. We will seek to ensure that access to severed land for farmers and farm vehicles is maintained during construction.

We received comments about the impact of construction on existing infrastructure – including some specific concerns about the effect of construction on utilities and farm businesses. Comments were also received suggesting EWR Co engage with and considers impacts arising from construction on any existing infrastructure (such as pipes, drainage and utilities) brought about by construction and development.

We'll continue to liaise and consult with utilities operators, local authorities and landowners throughout the design and development process to understand what infrastructure may exist within the vicinity of our Project.

Statements of Common Ground with utility operators would include agreements for protective provisions and regulatory and statutory clearances and distances. The Statements of Common Ground would be included as part of the DCO submission. Once ready to enter construction, utility works will conform to the appropriate regulatory and statutory clearances and distances, with works would be carried out in accordance with health, safety, and construction legislation, as well as relevant technical standards and guidance.

Utility diversions, protection and the relocation of farm irrigation infrastructure may be required. Land condition surveys would be commissioned to ensure that land used temporarily by EWR is correctly reinstated once construction was complete.

We will work with landowners whose farm water supply reservoirs and associated irrigation system is impacted to ensure that a comparable supply is maintained during construction. Where we need to reach agreements with landowners, utilities operators or any other third parties, we will seek to do so through relevant legal agreements, protective provisions or within Statements of Common Ground. We'd look to reduce and mitigate potential impacts by working closely with landowners as designs progress and would make sure access to severed land for farmers and farm vehicles is maintained during construction.

2.1.9.5 The construction of tunnels and embankments

We also received a series of comments and suggestions about the construction of tunnels and embankments, with specific feedback about the section between Bedford and Cambridge.

While we received comments suggesting that tunnels are built in sensitive areas, other comments we received were against the construction of tunnels. There were also concerns

and that embankments were too high, creating a visual impact as well as concerns the gradients were too steep for the use of trains.

We outlined a number of different routes and options in the 2019 consultation. We continue to develop and refine proposals, and we'll share the latest design proposals at the statutory consultation. We'll consider any feedback received and continue design work to determine a route that would seek to ensure the most efficient vertical and horizontal alignment.

We continue to explore the use of tunnels and embankments for the Project during the design process but only consider them to be a practical option in specific areas where they could provide a solution for addressing particular constraints. This is partly because they're more complex and expensive to build, operate and maintain than above ground structures, and also require additional surface structures for ventilation and exit in case of emergency. Any infrastructure we construct would make provision to accommodate freight and passenger operations to the required standards, including use of appropriate gradients.