Environmental Statement

Volume 2i: Scheme-wide Assessment

Chapter 4: Scope of the EIA and overall methodology

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4. SCOPE OF THE EIA AND OVERALL METHODOLOGY

4.1 Introduction

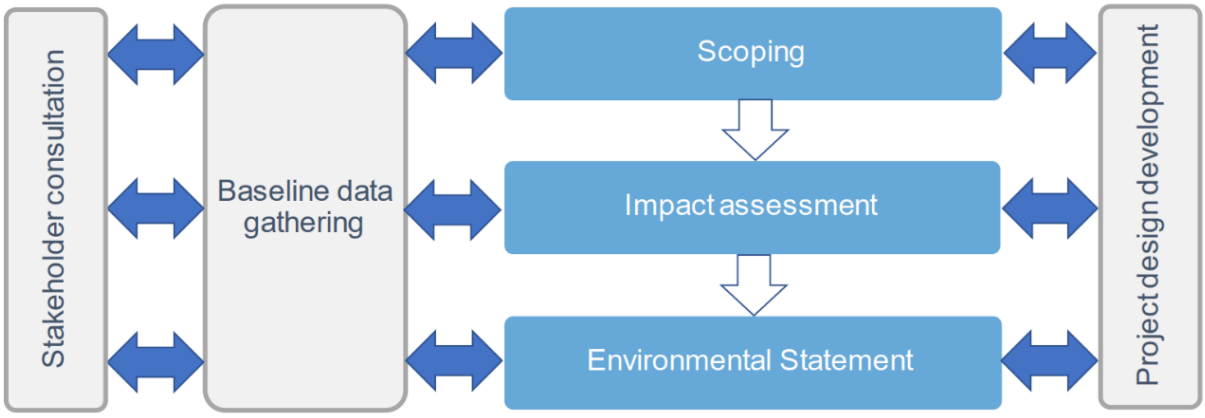
4.1.1 This chapter describes the approach to the Environmental Impact Assessment (EIA) from scoping through to the general, overarching assessment methodology adopted by each environmental topic. The chapter also summarises the approach to consultation and the assessment of the cumulative effects of the Scheme.

4.2 EIA process

4.2.1 EIA is a process undertaken by competent experts to assess the likely significant environmental effects arising from a proposed development. The outcome of this process is the production of an Environmental Statement (ES).

4.2.2 The procedures for TWAO applications are described in the Transport and Works (Applications and Objections Procedure) (England and Wales) Rules 2006 ("the Application Rules"). The Application Rules require the applicant of a TWAO to submit an ES in relation to any proposed works that constitute a project of the type outlined in Annex I or Annex II of the Environmental Impact Assessment Directive 2011/92/EU, as amended by Directive 2014/52/EU (the EIA Directive). This EU legislation is transposed into UK Law through the following, the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 and Environmental Impact Assessment (Miscellaneous Amendments Relating to Harbours, Highways and Transport) Regulations 2017.

4.2.3 The EIA for this Scheme has been an iterative process utilising the information gathered to inform the design where appropriate, as illustrated in Insert 4-1.



Insert 4-1 EIA process

4.2.4 To this point the EIA of the Scheme has comprised the following:

- EIA scoping established the broad scope and methodology of the environmental studies to be carried out for each environmental topic and enabled the applicant to engage and consult with stakeholders at an early stage to ensure the EIA took account of their views and local knowledge;
- Establishment of current baseline conditions, i.e. the current environmental conditions in the vicinity of the Scheme. These were determined from desk-based studies, publicly available information, environmental surveys and consultation with stakeholders that have specialist local knowledge;

- Projection of future baseline conditions, i.e. the future conditions without the Scheme in place (do nothing). Where appropriate, the current baseline has been extrapolated to take account of predicted or anticipated changes including, but not limited to traffic forecasts and air quality data;
- Consideration of policies, guidelines and legislation and best practice relevant to EIA;
- Integration of environmental features into the Scheme design. The design of the engineering aspects of the Scheme has been informed by the EIA and has sought to avoid predicted environmental impacts wherever possible (embedded mitigation) as detailed in Chapter 3 (Consideration of alternatives);
- Assessment of the Scheme, in accordance with the methodology outlined within each environmental topic chapter, to identify the local extent of potential impacts and further mitigation measures required to avoid, reduce or compensate for significant adverse environmental effects;
- Ongoing engagement with environmental, planning and community stakeholders throughout the engineering design and assessment process;
- Further assessment in the light of consultation responses, ongoing design development and baseline surveys; and
- Preparation of this ES.

4.2.5 Moving forward the EIA process will include implementation of the mitigation and monitoring measures as set out in Chapter 23 (Summary of mitigation) of this ES. The measures will be secured through a variety of mechanisms. Best Practice measures are included within Part A of the Code of Construction Practice (provided at Appendix 2-1) and the Scheme will be implemented in compliance with this document. Additional measures will be secured through conditions to be attached to the deemed planning permission[1] and/or Listed Building Consents.

4.3 Consultation summary

Stakeholder engagement

4.3.1 Formal and informal consultation was undertaken in line with the requirements of Rule 10(2)(d) of the Application Rules and has been undertaken with both statutory and non-statutory bodies throughout the EIA process.

4.3.2 Consultees included (but are not limited to) Historic England, Kirklees Council (various departments), Natural England, Sustrans, Environment Agency, Highways England, Canal and River Trust and the Ramblers Association.

4.3.3 Consultation has been used to:

- Agree appropriate assessment methodologies;
- Refine the scope of the assessment;
- Obtain environmental data; and
- Allow consultees an opportunity to comment on and influence the Scheme design and mitigation measures (where appropriate).

4.3.4 The individual environmental topic chapters and associated technical appendices detail specific engagement details relevant to that topic and how the assessment has taken these

[1] On making an order under the Transport and Works Act 1992, the Secretary of State may direct that planning permission shall be deemed to be granted, subject to such conditions (if any) as may be specified in the direction.

comments on board.

4.3.5 The following formal events were undertaken.

Stakeholder consultation phase 1b – September 2019

4.3.6 Consultees were sent a consultation pack which contained preliminary information about the Scheme and a copy of the Environmental Scoping Report.

4.3.7 The consultation pack was issued in September 2019 and consultees were given six weeks to provide feedback.

Stakeholder consultation phase 2 – March 2020

4.3.8 This phase of consultation in March 2020 shared the emerging plans of the Scheme as the design had developed in the six months since Phase 1b consultation.

4.3.9 Network Rail and Kirklees Council and other statutory stakeholders such as the Environment Agency, Historic England, Natural England and utility companies continued to engage to discuss the design proposals and the information from this engagement was key to the design development of the Scheme.

Public consultation

4.3.10 Two phases of public consultation have been undertaken and where appropriate the outcomes have been used to identify key issues, influence the design and construction proposals as well as inform the EIA process.

4.3.11 Full details of the consultation process, issues raised and how the Scheme has responded can be found in the Report Summarising Consultation Undertaken (NR07) which has been produced to accompany the Transport and Works Act Order (TWAO) application.

Public consultation phase 1 – September 2019

4.3.12 Nine events were held over a two-week period at venues across the Scheme area. The aim of the consultation was to provide the local community, stakeholders and landowners with an overview of the Scheme proposals as well as information on the evolving design principles.

4.3.13 In order to present the Scheme proposals to as wide an audience as possible, a thorough programme of publicity was undertaken. This included; the distribution of leaflets to households and businesses along the rail corridor, posters at local railway stations, and press and radio advertisements. Members of the public were encouraged to provide written feedback to Network Rail. Members of the public were also directed to the Network Rail website to view and comment on the proposals.

Public consultation phase 2 – March to April 2020

4.3.14 For phase 2, nine events were scheduled to be held over a two-week period and were advertised in a similar manner to phase 1. However, on the morning of the first event, employees at Network Rail and its Alliance partners were instructed to work from home and not to travel to work (as part of COVID-19 restrictions). A decision was therefore made not to carry out the public consultation events in the venues booked along the route but to proceed with the consultation online and by telephone.

4.3.15 The following mitigation measures were put in place so that the public could still view and comment on the Scheme proposals:

- Posters were put up at all local venues that were scheduled to hold the public consultation events and railway stations, giving the Network Rail website address so that Scheme proposals could be viewed online. The Network Rail helpline number was also given so that the public could call the helpline, who in turn would forward the call to a member of the project team to speak to the caller;
- The Network Rail website was updated, advising that the venues would not be open and directing viewers to the consultation material online and the Network Rail helpline and advising of ways to provide feedback; and
- A press release and advertisement were placed in the local newspapers, advising of the above mitigation measures.

Public engagement event – October 2020

4.3.16 Given the constraints during the phase 2 consultation, a decision was taken to undertake a final public engagement exercise. The aim of these events was to give the community and landowners a final opportunity to view the proposals prior to submission of the TWAO.

4.3.17 Information was posted on the Network Rail website and drop in events were arranged at a single COVID-19 secure location.

4.4 Determining the EIA scope

Scoping opinion

4.4.1 Applications for a TWAO are made in accordance with the Application Rules. Rule 8 of the Application Rules sets out that it is possible for an applicant to apply for a Scoping Opinion that sets out Secretary of State's views on what should be included in an ES. A Scoping Opinion is requested by submitting an Environmental Scoping Report.

4.4.2 A Scoping Report for the Scheme was submitted to the Secretary of State on 19 June 2019 and a Scoping Opinion was received on the 31 July 2019. Copies are provided in Appendix 4-1 and 4-2 in Volume 3 of this ES.

Technical scope

4.4.3 The scoping process identified that the following EIA topics should be assessed and reported in the ES:

- Historic environment;
- Air quality;
- Noise and vibration;
- Biodiversity;
- Landscape, townscape and visual;
- Water environment (including flood risk);
- Geology, soils and land contamination;
- Waste and materials;
- Traffic and transport;
- Population and human health;
- Climate (effects and vulnerability);
- Electromagnetic interference;
- Agriculture;
- Public open space; and

- Socio-economic.

Spatial scope

4.4.4 Each topic chapter identifies a spatial scope over which the assessment is undertaken. The spatial study areas vary according to the environmental topic being assessed to ensure that the geographical scope is appropriate to capture any potential effects relevant to each environmental topic.

4.4.5 When determining the spatial scope (also known as the study area) for a given environmental topic, the following are considered:

- The extent of the Scheme area;
- Relevant legislation, policy and guidance;
- The existing baseline environment;
- The location of receptors;
- The mechanisms by which effects could occur;
- The applicable mitigation options;
- The likely Scheme impacts and effects;
- The likely cumulative Scheme effects; and
- The Scoping Opinion and consultation comments received.

Temporal scope

4.4.6 The EIA assesses the likely significant effects anticipated to arise from the construction of the proposed works, temporary and permanent land take and operation of the Scheme as follows:

4.4.7 Any anticipated effects from the construction of the Scheme, can be either temporary or permanent and can arise from:

- Construction activities (e.g. demolition activities, vegetation clearance, piling, earthworks, lighting, building new structures);
- The temporary use of land (e.g. construction sites, compound areas, construction access routes);
- Permanent use of land (e.g. areas of new railway, reconstruction of structures, railway access points); and
- Associated changes in traffic movements (e.g. traffic diversions, road closures, footpath diversions).

4.4.8 The construction programme, assessed and reported in this ES, will occur over a four-year period. The exact start date is dependent on the determination period of the Order application but for the purposes of the EIA is set out as starting in late 2022 and completing in summer 2026.

4.4.9 Anticipated effects from the operation of the Scheme are considered to be those effects that could arise once construction is complete, and the Scheme is operational. They can arise from:

- Operation of the new infrastructure (e.g. use of stations, track and movement of trains);
- The physical presence of new infrastructure (e.g. structures, earthworks, drainage ancillary infrastructure, amended highways); and
- Maintenance activities on new infrastructure.

4.4.10 For the purposes of the EIA, the operational assessments are based on the anticipated opening year of 2026 (for full operation).

4.4.11 Decommissioning has not been assessed; there are no plans to decommission the Scheme, so no end-of-life activities will take place. Network Rail's Environmental Management Systems and Sustainable Development Strategy (2013-2024)[2] state that even if the Scheme ceased to be in operational use in the future, it is not the intention of Network Rail to remove the rail corridor and associated infrastructure.

Existing environmental baseline

4.4.12 Data has been collected to determine the existing environmental baseline conditions, as of 2019, against which the changes resulting from the construction and operation of the Scheme are assessed.

4.4.13 The existing baseline environment is characterised by making use of existing available data and/or through undertaking additional desk-based studies, field surveys and modelling. The methodology for establishing the baseline environment for each environmental topic is described in the methodology section of each environmental topic chapter.

Future baseline

4.4.14 The future baseline environment comprises the existing baseline, together with new or changed characteristics and conditions that can reasonably be predicted to be present during construction and/or operation of the Scheme.

4.4.15 There are several contributing elements in the definition of the future baselines considered within the ES:

- Planning applications and proposed development which is assumed to have been brought forward prior to construction of the Scheme commencing;
- Forecast changes in traffic conditions projected within local authority traffic forecast models. These have been sourced from Kirklees Council and incorporated within the traffic and transport modelling of future growth scenarios once the Scheme is operational. Further details are provided in the methodology sections in Chapter 7 (Air quality), and Chapter 14 (Traffic and transport); and
- Changes in baseline environment e.g. greenhouse gas emissions.

4.4.16 This information may vary between topics depending on the relevance of the application to the individual disciplines.

Cumulative impact assessment

4.4.17 The cumulative impact assessment (CIA) is presented in Chapter 22 (Cumulative effects) of this ES and explores the way in which the predicted effects of the Scheme on receptors/ resources may alter when they are considered in their totality (i.e. across all environmental topic assessments), as well as in the context of the Scheme plus Reasonably Foreseeable Future Projects (RFFPs) and the potential effects that could arise from developments coming forward at the same time.

4.4.18 These two strands of CIA are referred to as intra-Scheme and inter-Scheme assessment.

[2] https://cdn.networkrail.co.uk/wp-content/uploads/2019/07/sustainable-development-strategy.pdf [accessed on 25 September 2020]

- Intra-Scheme impacts are defined as those arising within this Scheme and affecting specific receptors and/or biophysical resources. This requires consideration of the potential for in-combination impacts to emerge within the same environmental topic, as well as reviewing the interaction between impacts identified by each of the environmental topics undertaking assessment of the Scheme; and
- Inter-Scheme impacts are those arising between the Scheme and other developments expected to come forward within similar timeframes. This requires consideration of the impacts of the Scheme in the context of the agreed list of RFFPs. The description of the impacts relates to the relevant baseline conditions – construction impacts are benchmarked against the construction baseline; operational impacts are benchmarked against the operational baseline – this ensures that the CIA appropriately recognises instances where RFFPs will introduce new receptor groups that could experience the construction and/or operation of the Scheme. The RFFP list used in the EIA was discussed and agreed with the local authority in January 2020. Updated information was provided by Kirklees Council in October 2020 and January 2021. Details of the information is provided in Appendix 22-1 (Cumulative effects).

4.5 Assessment methodology

4.5.1 This section explains the methodology used to undertake the EIA of the Scheme.

4.5.2 The EIA identifies likely significant environmental effects of the Scheme on identified receptors by comparing the changes that would be created by the construction and operation of the Scheme, respectively, against the relevant future baseline environment.

4.5.3 Each environmental topic uses the following general assessment steps, unless otherwise stated in the environmental topic chapter:

- Identification of receptors/resources and assessment of their sensitivity;
- Assessment of potential impacts and effects of the Scheme (beneficial or adverse); this assessment will consider any embedded mitigation (i.e. designed into the Scheme);
- Consideration of additional mitigation measures;
- Assessment of significance of residual effects on the receptors/resources after consideration of these measures; and
- Consideration of potential cumulative impacts and effects.

4.5.4 Any “assumptions and limitations” used to inform the assessments are set out within the environmental topic chapters or their associated technical appendices.

Identification of receptors and their sensitivity

4.5.5 Within each environmental topic chapter, receptors/resources are identified, and their sensitivity determined. Environmental receptors are defined as relating to humans or human systems (including as users of dwellings, places of recreation, places of employment and community facilities). Environmental resources are defined as biophysical features and include those elements of the environment that are essential, or of value to the functioning of natural or human systems. These include areas or elements of ecological, landscape or heritage value, soil, air, water, dwellings, places of employment and community facilities.

4.5.6 Once a receptor or resource is identified, the potential sensitivity to change arising from the construction or operation of the Scheme is determined. This is generally categorised as Low, Medium or High and considers factors such as the importance, rarity and ability to substitute or replace the receptor or resource, as illustrated in Table 4-1.

Table 4-1 Description of sensitivity

Value (sensitivity of receptor/resource	Typical description
Very High	Very high importance and rarity, international scale and very limited potential for substitution.
High	High importance and rarity, national scale, and limited potential for substitution.
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale.
Negligible	Very low importance and rarity, local scale

Source: DMRB LA104[3]

4.5.7 Where appropriate, and where recognised methodologies and guidance allows, each environmental topic applies a topic-specific scale in their assessment to define sensitivity. Such variations are described in the methodologies for each environmental topic chapter.

Impacts and their magnitude

4.5.8 An impact is a physical or measurable change to a receptor or resource that is attributable to the construction and/or operation of the Scheme, when compared to baseline conditions. Impacts have both a quantifiable value (e.g. a loss of 10 hectares of mature trees) and a magnitude (e.g. major, moderate or minor).

4.5.9 Impacts are classified according to the following categories as:

- Direct or indirect;
- Short, medium or long-term;
- Permanent or temporary;
- Reversible or irreversible;
- Beneficial or adverse; and
- Cumulative (intra-Scheme).

4.5.10 Each environmental topic discusses how the magnitude of an impact is assessed within the methodology for the respective environmental topic chapter. Table 4-2 gives an example of the classification of the magnitude of an impact that may be applied by a technical discipline.

Table 4-2 Description of the magnitude of an impact

Magnitude of impact	Type	Typical descriptor
Major	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features or elements
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features or elements

[3] Design Manual for Roads and Bridges (DMRB) - LA 104 - Environmental assessment and monitoring - https://www.standardsforhighways.co.uk/prod/attachments/0f6e0b6a-d08e-4673-8691-cab564d4a60a?inline=true

	Beneficial	Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality
Minor	Adverse	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration to, one (or maybe more) key characteristics, features or elements
	Beneficial	Minor benefit to, or addition of, one (or maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features or elements
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features or elements.
No Change		No loss or alteration of characteristics, features or elements; no observable impact in either direction

Source: DMRB LA104

Assessment of significance

4.5.11 An effect is the consequence of an impact to a receptor or resource. This is assessed by evaluating the sensitivity of the receptor or resource in the context of the nature and magnitude of the impact experienced by the receptor or resource.

4.5.12 An example of the methodology applied in this context is given in Table 4-3. Where an environmental topic assesses effects according to discipline specific guidance, details of this are given in the respective environmental topic chapter.

Table 4-3 Assessment of effects

		Environmental value sensitivity				
		Very High	**High**	**Medium**	**Low**	**Negligible**
Magnitude of impact	**Major**	Very Large	Large or Very Large	Moderate or Large	Slight or Moderate	Slight
	Moderate	Large or Very Large	Moderate or Large	Moderate	Slight	Neutral or Slight
	Minor	Moderate or Large	Slight or Moderate	Slight	Neutral or Slight	Neutral
	Negligible	Slight	Slight	Neutral or slight	Neutral or Slight	Slight
	No Change	Neutral	Neutral	Neutral	Neutral	Neutral

Source: Based on DMRB LA 104

4.5.13 Within EIA, effects are categorised as significant or not significant. Significant effects typically comprise residual effects that are within the Moderate, Large or Very Large categories.

4.5.14 Where Table 4-3 includes two significance categories, professional judgement has been utilised to determine the appropriate level of significance.

Mitigation

Application of mitigation hierarchy

4.5.15 The mitigation hierarchy sets out the order in which mitigation actions have been considered, from desirable to least desirable. This exercise is necessary to address significant adverse

effects identified within an EIA. The mitigation hierarchy as it has been applied in this ES is presented in Table 4-4.

Table 4-4 Mitigation hierarchy

Mitigation action	Description	General examples
Avoidance	Design and mitigation measures to prevent the effect (e.g. alternative design options or avoidance of environmentally sensitive sites).	Design change to avoid land take or particular environmental constraints; consultation with stakeholders to avoid impacts; programming of works to avoid specific sensitive times.
Reduction	Where avoidance is not possible, then mitigation is used to lessen the magnitude or significance of effects.	Provision of noise insulation and barriers. Provision of hooded lighting to minimise light disturbance to sensitive receptors. Management of emissions at source, e.g. dust control measures set out in the Code of Construction Practice (CoCP).
Remediation	Here it is not possible to avoid or reduce a significant adverse effect, these are measures to offset the effect.	Ecological compensations sites; landscape restoration and reinstatement of agricultural land condition after construction; implementation of compensatory flood storage areas.

4.5.16 Mitigation or compensation can be provided away from the location of the impact, but where feasible it will be provided as close to the impact as possible.

Embedded mitigation

4.5.17 Mitigation measures integrated into the design of the Scheme (i.e. the Scheme could not be delivered without them) and are intended to prevent, reduce and where possible offset any significant adverse impacts on the environment as well as measures such as compliance with statutory requirements are classed as embedded mitigation. These measures are considered part of the Scheme when assessing the potential effects.

4.5.18 Details of these embedded mitigation measures are set out in Chapter 3 (Consideration of alternatives) of the ES.

Additional mitigation

4.5.19 Where the embedded mitigation measures do not fully avoid or mitigate impacts the environmental topic assessments identify potential significant effects due to construction and/or operation of the Scheme. Additional mitigation measures are detailed within each relevant environmental topic chapter of the ES which seek to reduce the identified effect.

4.5.20 Chapter 23 (Summary of mitigation) of this ES summarises the mitigation measures proposed for the Scheme and describes how these measures will be secured.

Residual effects

4.5.21 Where significant effects remain after the mitigation measures proposed for the Scheme are considered, these are termed the residual effects. Residual effects are identified by reviewing the assessment of effects then taking into account the effective application of mitigation measures. Such effects will be reported in each environmental topic chapter.

4.5.22 Where an environmental topic assesses effects according to discipline specific guidance, details of this are given in the respective chapter.

4.5.23 As noted above, the applicant has adopted a precautionary approach to this assessment, meaning that effects are considered significant in EIA terms if they are categorised as Moderate or above. If there are any deviations to this approach this is reported within the relevant environmental topic chapter.