

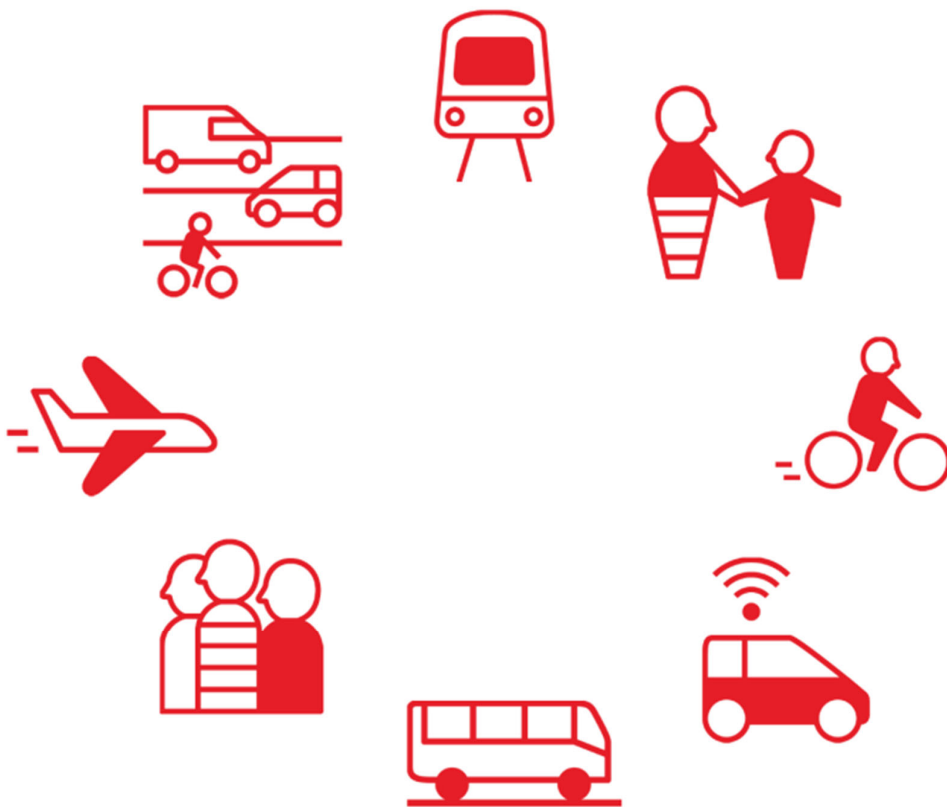
Transport for the North - Strategic Transport Plan 2

Integrated Sustainability Appraisal 2

Main Report

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1. Introduction

1.1 Purpose of this Report

This Integrated Sustainability Appraisal Report (ISA2), produced by Ove Arup & Partners (Arup) on behalf of Transport for the North (TfN), identifies the likely sustainability impacts of implementing the Strategic Transport Plan 2 (STP2) and reports on the process of developing the STP2 from a sustainability perspective.

This report has been prepared to fulfil the requirements for a Sustainability Appraisal (SA), Strategic Environment Assessment (SEA), a Health Impact Assessment (HIA) and an Equalities Impact Assessment (EqIA). A Habitats Regulation Assessment (HRA) of the STP2 has also been undertaken but has been reported separately, with results feeding into the ISA2. A summary of the STP2 is presented below.

1.2 Background to Transport for the North

TfN became England's first statutory sub-national transport body in April 2018 through the Local Government and Devolution Act 2016 (with the amendment to the Local Transport Act 2008).

As a partnership, TfN brings the North's 21 local transport authorities together with Network Rail, Highways England, and HS2 Ltd, while working closely with Central Government. TfN speaks with one voice on behalf of the elected leaders and business leaders of the North of England on transport matters. Collectively, TfN represents all of the region's 16 million citizens.

TfN's focus is on improving strategic connectivity for and within the North, whilst explicitly recognising that it is the whole 'door-to-door' journey that matters for people and goods. For the North's transport systems to work efficiently and effectively, it is crucial that pan-Northern road and rail networks are well integrated with local roads and public transport, as well as walking and cycling networks.

While interventions to support local roads, local public transport networks, walking, and cycling will mostly be made at a local level, these can reduce congestion, help decarbonise our communities and enable access to pan-Northern transport networks. This is why TfN works closely with local transport partners to help create a more integrated, healthy, and resilient overall transport system. TfN also works nationally with Government, other Sub-national Transport Bodies (STBs), the devolved administrations and North's cross-border authorities to ensure that investment in pan-Northern transport enhances connectivity across the UK.

Importantly, when considering the findings of this ISA it is important to understand the role of TfN:

- A **centre of technical excellence** for the North – holding and collating information and analytical tools that are available to all partners.
- A **source of trusted information** – one that is available to all TfN’s partners locally, regionally, and nationally as a foundation on which to develop solutions.
- A **strategic thought leader** and champion of strategic transport planning – one that ensures the linkages between transport, digital and energy systems are reflected in decision making.
- An **enabler of accelerated delivery** – applying TfN’s capability and capacity in support of their partners as they bring forward solutions for implementation.
- A **trusted collaborator** – working with partners (nationally and across the North) in order to maximise the leverage of its own activity to the benefit of the North’s communities and businesses.
- As a statutory body a key role for TfN is to make evidence-based recommendations to government on funding, sequencing, and implementation of transport investment.
- TfN is not a transport operator or delivery authority.

Figure 1 outlines TfN’s geography and the local transport authorities for the North.



Figure 1: TfN Geography (to be updated, for final publication, to reflect local authority boundaries for Westmoreland and Furness Council and Cumberland Council)

1.3 The need for the Strategic Transport Plan 2

TfN’s statutory role (as set out by Government) requires TfN to develop and implement a Strategic Transport Plan (STP) that communicates pan-Northern priorities to the Secretary of State for Transport and explains how TfN will act as a statutory partner in delivery of infrastructure and services on behalf of the North’s local transport authorities.

The STP2 sets out the opportunities and challenges facing the North of England’s economy, people, and communities, and demonstrates how improved transport links can help the North achieve its true potential.

To reflect the Norths diverse people, places, and the scale of the transport challenges the North faces, TfN has developed the STP2 with five key principles in mind: user-centric, outcome-focused, placed-based strategy that is underpinned by robust evidence, enabled by a systems approach, which recognises the need to integrate transport solutions with energy, spatial planning, and digital connectivity.

1.4 Strategic Transport Plan 2 Overview

Following public consultation, the first Strategic Transport Plan (STP1) was adopted in 2019; the first multi-modal plan of its kind. The plan was created through unprecedented collaborative efforts between TfN and its partners to create a vision for transport across the North to drive transformational economic growth and travel change.

STP1 focused on connecting people, connecting businesses and moving goods across all forms of transport. Utilising a diverse range of data covering infrastructure, the economy, society and the environment, TfN mapped out a strategic plan across seven strategic corridors to provide a comprehensive and robust vision that TfN’s partners have started to deliver over the past three years.

Since the publication of STP1, TfN has continued to evolve and mature its evidence base. There has been significant work in developing its Analytical Framework, and the creation of road, rail, land use and freight models. Research and evidence have also been undertaken to assess transport related social exclusion, and user insights. A key evidence source for TfN continues to be the 2016 Northern Powerhouse Independent Economic Review (NPIER)¹. An update of the NPIER scenarios has been undertaken to support the development of this STP. The new assessment confirms the opportunity from and continued importance of the seven “prime and enabling capabilities” of the North’s economy, as well as emerging and wider sectoral strengths, including engineering and construction, food, and agriculture.

To support and shape STP2, TfN proposed three Strategic Ambitions. These are:

- Transform Economic Performance

¹ <https://transportforthenorth.com/reports/npier-core-messages/>

- Rapid Decarbonisation of Surface Transport
- Enhancing Social Inclusion and Health

STP2 has been drafted around four ‘building blocks’ to ensure that its evidence base is robustly and comprehensively set out. These are:

- The Case - Setting out the case for change, summarising the evidence headlines and setting the scene for the STP, including the principles of the ‘Sustainability Stool’.
- The Vision - Setting out TfN’s overarching vision for transport in the North of England, supported by three strategic ambitions.
- TfN’s Strategy for the North’s Transport System - TfN’s overarching strategy and priorities for rail, the road network, freight and international connectivity, and local connectivity.
- Action and Impact Framework - Setting out the role and responsibilities of TfN, its action plan and how it will measure its impact.

Following consultation and TfN governance approval, the intention is to adopt the final STP2 in December 2023.

For consistency, the ISA2 has been built upon work previously completed in the ISA1 of the STP1, undertaken by Atkins and completed in 2017 and 2018. It should be noted that TfN’s remit has changed since the preparation of STP1 and therefore both the STP2 and ISA2 reflect this revised remit.

1.5 Reporting and consultation as part of the ISA2

Consultation is a key element of the IA process. Consultation completed to date has been on the ISA2 Scoping Report. The Scoping Report was issued for consultation to statutory consultation authorities and a range of other stakeholders, with a consultation period running from 27 September to 2 November 2022 with all responses requested in writing by email or post.

In addition to a statutory request for comment by TfN to the range of formal consultees in England, it was recognised that there was a potential for cross boundary effects from the implementation of the STP and as such, the following statutory bodies were consulted:

- Scottish Environmental Protection Agency (SEPA)
- Historic Environment Scotland
- Scottish Natural Heritage

- Natural Resource Wales
- CADW (Historic Environment Wales)

Furthermore, TfN also sought the views of a wide range of other environmental, social and economic stakeholders to ensure a high level scrutiny, rigour and comprehensiveness of the approach. A full list of bodies consulted is provided in the TfN ISA2 Scoping Report Appendices- Appendix B, which is included as Appendix A to this ISA2 Report. Following the consultation, all feedback was considered and the Scoping Report updated with changes based on consultation responses.

Consultation responses received as part of the STP2 plan consultation relevant to the ISA2 will be considered and appropriately actioned. All documents relating to the ISA2 have been published as part of the STP2 plan consultation for consideration.

2. Scope of the Integrated Assessment

This section provides an overview of the spatial, temporal and technical scope of the studies undertaken as part of the ISA2. For consistency, the ISA2 has been built upon work previously completed in the ISA1 of the STP1, undertaken by Atkins and completed in 2017 and 2018. It should be noted that TfN’s remit has changed since the preparation of STP1 and therefore both the STP2 and ISA2 reflect this revised remit.

2.1 Spatial Scope

The STP2 applies to an area of the North of England comprising the combined overall geographical extents of the 21 Local Transport Authority areas shown in Figure 1 above and outlined in the Table below:

Table 1: Local authority areas covered in the STP Area

Previous LEP Area	Local authority areas
North East	County Durham, Gateshead, Newcastle upon Tyne, North Tyneside, Northumberland, South Tyneside, Sunderland.
Cumbria	Cumberland Council and Westmorland and Furness Council.
Tees Valley	Darlington, Hartlepool, Middlesborough, Redcar & Cleveland, Stockton-on-Tees
York, North Yorkshire and East Riding	Craven, Hambleton, Harrogate, Richmondshire, Ryedale, Scarborough, Selby, York, East Riding.
Lancashire	Blackburn with Darwen, Blackpool, Burnley, Chorley, Fylde, Hyndburn, Lancaster, Pendle, Preston, Ribble Valley, Rossendale, South Ribble, West Lancashire, Wyre.
Leeds City Region	Barnsley, Bradford, Calderdale, Craven, Harrogate, Kirklees, Leeds, Selby, Wakefield and York, along with North Yorkshire County Council.

Greater Manchester	Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford, Wigan.
Liverpool City Region	Halton, Sefton, Knowsley, Liverpool, St Helens, Wirral.
Sheffield City Region	Barnsley, Bassetlaw, Bolsover, Chesterfield. Doncaster, Derbyshire Dales, North East Derbyshire, Rotherham, Sheffield.
Humber	Hull, East Riding of Yorkshire, North East Lincolnshire, North Lincolnshire.
Cheshire and Warrington	Cheshire East, Cheshire West and Chester, Warrington.

It should be noted that while the STP2 relates to a defined area encompassing the combined extents of the 21 Local Transport Authorities noted above, the STP2 will have effects outside of this area due to the scale, significance and importance of some elements of the plan.

2.2 Temporal scope

The temporal scope of the ISA2 has been aligned with that for the STP2, which will apply to the period up to the year 2050.

2.3 Technical scope

The ISA2 has a wide remit and will consider the following topics associated with the various assessment processes it covers. Data has been collated and analysed for the following indicators (as detailed in TfN ISA2 Scoping Report Appendices- Final Appendix A, which is included as Appendix A to this ISA2 Report):

Environmental Data

- Greenhouse gas emissions
- Climate change
- Local air quality
- Noise
- Biodiversity
- Landscape and townscape
- Green space
- Soil
- Water quality
- Flooding

Economic Data

- Employment
- Economic sectors, including those related to rural output
- Performance gap and sub-regional performance
- Overview of each previous LEP area as noted in NPIER
- Identification of economic centres

Social Data (including Health, Equalities and Community Safety)

- Population and diversity
- Heritage assets
- General health statistics
- Accessibility
- Road safety and accidents
- Physical activity in children and adults
- Equality target groups
- Multiple deprivation

It is noted that these indicators have been grouped into three overarching topics however the indicators are interdisciplinary and therefore impact and influence each overarching topic. Further information can be found in Sections 4, 5 and 6 of this report.

3. ISA2 Methodology

3.1 Purpose of the ISA2

The ISA2 is the second iteration of the ISA, following on from the Integrated Sustainability Assessment 1 (ISA1) completed by Atkins and adopted in 2019. Building on the previous body of work, the ISA2 supports the development of TfN's STP2. The ISA2 aim is to promote sustainable development, health and equality, social, environment and economic considerations within the STP2. The ISA2 and STP2 have been running in parallel, allowing the integration of ISA2 recommendations to be included into the development of the STP2.

The ISA2 has considered the requirements and scope of:

- Strategic Environmental Assessment (SEA) in accordance with the Environmental Assessment of Plans and Programmes Regulations 2004 (SI 2004/ 1633, “2004 Regulations” as amended).
- Sustainability Appraisal (SA) (as required by section 19 (5) of the Planning and Compulsory Purchase Act 2004).
- Equality Impact Assessment (EqIA) (as required by section 149 of the Equality Act 2010, as amended).
- Health Impact Assessment (HIA) (as outlined by national government policy).

In addition, the ISA2 completed a Habitat Regulations Assessment (HRA), as required under Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994 (SI 1994/ 2716, “1994 Regulations”, as amended). The relevant scoping and assessment is within the HRA Stage 1 and Stage 2 Reports.

For consistency, the ISA2 has been built upon work previously completed in the ISA1 of the STP1, undertaken by Atkins and completed in 2017 and 2018. It should also be noted that TfN's remit has changed since the preparation of STP1 and therefore both the STP2 and ISA2 reflect this revised remit.

Furthermore, during the preparation of the STP2, in March 2023 the Department of Levelling Up, Housing and Communities opened a consultation considering legislative changes to Environmental Outcomes Reports; however, given that this is only at consultation stage, it has not been applied to this plan.

3.2 ISA2 Scope

This section outlines the scope of the ISA2 and how the methodology incorporated the requirements set out by the each of the different types of assessment. The ISA2 components are shown in Figure 2. The HRA Stage 1 and Stage 2 Reports have been produced separately. This ISA2 does not include a separate Community Safety Assessment (CSA) as was included in ISA1, as the full scope of the CSA has been included within the Health Impact Assessment component of the ISA2.

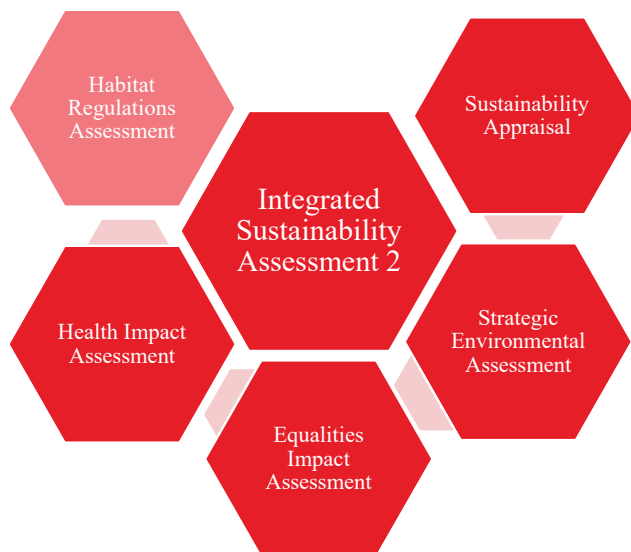


Figure 2: ISA2 Components

Each of the assessments broadly follow a similar approach with screening, setting the baseline context, identifying where there are impacts on defined relevant topic areas, evaluating the effects in relation to those impacts for both plan objectives and policies and making recommendations for mitigation where needed. By undertaking this methodology, it has ensured that the STP2 comprehensively considers environmental, societal, economic and health effects during the development of the plan, strengthening the future policies.

3.2.1 Strategic Environmental Assessment (SEA) and Sustainability Appraisal (SA)

SAs ensure environmental, economic and societal impacts are considered when plans are being created. SEA is similar but focuses on environmental impacts of plans. Both of these consider issues at the strategic level. SA in the UK is mandatory under section 19 (5) of the Planning and Compulsory Purchase Act 2004, which requires planning authorities to carry out a sustainability appraisal of the proposals within Plans during their preparation.

SEA is mandatory under the Environmental Assessment of Plans and Programmes Regulations 2004 (“the SEA Regulations”). Regulation 12(3) and Schedule 2 of these regulations describes “information for environmental reports” which need to be adhered to when creating policy.

The ISA2 Framework meets the legislative requirements with the inclusion of key objectives and assessment criteria, outlined in Section 6.

3.2.2 Equality Impact Assessment

EqIAs ensure that discrimination does not occur when creating strategic plans and that policies meet the requirements of the Equality Act 2010. The Act imposes a duty on public bodies that shape policy, deliver services and/or employ people. The duty requires public bodies to:

- Have due regard to the need to eliminate discrimination;
- advance equality of opportunity; and
- foster good relations between different people when carrying out their activities.

The ISA2 needs to consider in its scope, the likely effects on discriminatory practices; the potential to alter the opportunities of certain groups of people; and/or effect on relationships between different groups of people. In order to understand which groups of people (or individuals), may suffer discrimination, the Equality Act sets out a series of “protected characteristics”:

- Age;
- Disability;
- Gender Reassignment;
- Marriage and Civil Partnership;
- Pregnancy and Maternity;
- Race;
- Religion or Belief;
- Sex; and
- Sexual Orientation.

The ISA2 Framework meets the legislative requirements with the inclusion of key objectives and assessment criteria, outlined in Section 6. In addition, the ISA2 is supported by an Equality Screening Assessment which is included within appendix B to the ISA2 report.

3.2.3 Health Impact Assessment

HIAs ensure that plans minimise negative and maximise positive health impacts. A process is set out by the UK’s Department of Health’s Health Impact Assessment of Government Policy (2010), to follow in carrying out HIA. There is no statutory requirement to undertake a HIA however the

assessment is included to ensure wider potential impacts relating to health are fully considered with the ISA2.

The ISA2 Framework includes the Department of Health's determinants of health (people, lifestyle, community, local economy, activities, built environment and natural environment) within the key objectives and assessment criteria, outlined in Section 6.

3.3 Integrated Sustainability Assessment Process

The ISA2 process follows the standard Integrated Assessment (IA) stages:

Stage A – This scoping stage is to set the context for the assessment with: a review of relevant plans, programmes and strategies; collection, analysis and summarisation of current and future baseline data; identification of key issues and opportunities for the North; refinement of ISA objectives; preparation of the scoping report and consultation with statutory bodies and relevant organisations.

Stage B – This assessment stage is to consider the proposed policy options and assess their effects, using the framework developed in stage A including assessing the vision and objectives of the Plan and reasonable alternatives, identifying mitigation measures, explaining why the preferred policy options were taken and to propose monitoring measures for the policies.

Stage C – This reporting stage involved preparing the IA report which explains Stage B.

Stage D – This consultation stage involves consulting of the proposed Plan (STP2) and associated IA, with feedback from the consultation considered and appropriately actioned.

Stage E – The Post-Adoption stage will involve the creation of the Post Adoption Statement following the adoption of the Plan.

These stages encompass all legislative and best practise requirements for each of the assessments as explored in section 3.2. This Report is currently within Stage C of the IA process. Further information on each stage is presented in Table 2.

Table 2: Integration of the Assessment Process

STP2 Preparation Stage	IA Stage	Sustainability Appraisal and Strategic Environmental Assessment Tasks	Habitat Regulations Assessment Tasks	Health Impact Assessment Tasks	Equalities Impact Assessment Tasks
<p>Determining the scope of the Strategic Transport Plan clarifying goals; specifying the problems or challenges the authority wants to solve</p>	<p>A. Setting the context and objectives, establishing the baseline and deciding on the scope</p>	<p>Review plans/programmes and identify sustainability themes</p> <p>Review Baseline data and likely future trends</p> <p>Review Key sustainability issues</p> <p>Review objectives and decision-making questions (SA/SEA Framework)</p> <p>Prepare Scoping Report</p>	<p>Identify all international sites within and up to 20km around the STP2 area</p> <p>Contact Natural England for details of all international sites and consultation purposes</p> <p>Liaise with SA/SEA team to ensure SA/SEA Framework covers international sites appropriately</p>	<p>Identify related plans/programmes and identify themes (as part of SA/SEA)</p> <p>Baseline evidence (as part of SA/SEA)</p> <p>Identify health and wellbeing issues (as part of SA/SEA)</p> <p>Ensure inclusion of health and wellbeing specific objectives in SA/SEA Framework</p>	<p>Identify related plans/programmes and identify themes (as part of SA/SEA)</p> <p>Baseline evidence (as part of SA/SEA)</p> <p>Identify equalities issues (as part of SA/SEA)</p> <p>Ensure inclusion of equalities specific objectives in SA/SEA Framework</p>

STP2 Preparation Stage	IA Stage	Sustainability Appraisal and Strategic Environmental Assessment Tasks	Habitat Regulations Assessment Tasks	Health Impact Assessment Tasks	Equalities Impact Assessment Tasks
		Formal consultation with SEA Statutory consultees and other relevant social and economic consultees	HRA information incorporated in Scoping Report Consultation as part of SA/SEA formal consultation	HIA information incorporated in Scoping Report Consultation as part of SA/SEA formal consultation	EqIA information incorporated in Scoping Report Consultation as part of SA/SEA formal consultation
Generating options for the Strategic Transport Plan to resolve these challenges; appraising the options and predicting their effects	B. Developing, refining and appraising strategic options	Assess STP2 objectives against the SA/SEA Framework Appraise STP2 strategic options Evaluate/select STP2 preferred options.	Assess STP2 objectives against relevant HRA objective Initial advice provided to client in relation to the sensitivities of the international sites and how to avoid significant effects on these sites.	HIA assessment of STP2 objectives and strategic options be undertaken within SA/SEA	EqIA assessment of STP2 objectives and strategic options be undertaken within SA/SEA

STP2 Preparation Stage	IA Stage	Sustainability Appraisal and Strategic Environmental Assessment Tasks	Habitat Regulations Assessment Tasks	Health Impact Assessment Tasks	Equalities Impact Assessment Tasks
Selecting preferred options for the Strategic Transport Plan and deciding priorities	B. Assessing the effects of the STP2	Predict and assess effects of options taken forward Propose mitigation measures Propose monitoring programme	HRA review of proposals in draft Propose mitigation measures Monitoring as part of SA/SEA	HIA assessment of preferred options to be undertaken within SA/SEA. Mitigation measures proposed within SA/SEA Monitoring as part of SA/SEA	EqIA assessment of preferred options to be undertaken within SA/SEA. Mitigation measures proposed within SA/SEA Monitoring as part of SA/SEA
Production of the draft Strategic Transport Plan	C. Prepare ISA2 Report	Prepare the ISA2 Report	Prepare HRA Screening Report (separate output)	HIA fully documented in ISA2 Report (no separate output but HIA component properly identified)	EqIA fully documented in ISA2 Report (no separate output but EqIA component properly identified)

STP2 Preparation Stage	IA Stage	Sustainability Appraisal and Strategic Environmental Assessment Tasks	Habitat Regulations Assessment Tasks	Health Impact Assessment Tasks	Equalities Impact Assessment Tasks
Consultation on draft Strategic Transport Plan	D. Consulting on ISA2 Report	Consult on ISA2 Report	HRA Screening Report sent to Natural England for agreement on findings.	HIA Consultation included in ISA2 Report consultation	EqIA Consultation included in ISA2 Report consultation
Production of final Strategic Transport Plan	D. Assess significant changes	Assess significant changes	Assess significant changes	HIA assessment of significant changes undertaken as part of SA/SEA	EqIA assessment of significant changes undertaken as part of SA/SEA
Adoption of Strategic Transport Plan	D. Prepare Post Adoption Statement	Prepare Post Adoption Statement	Prepare updated HRA Screening Report	Relevant results reported in Post Adoption Statement	Relevant results reported in Post Adoption Statement

3.4 Assessment Methodology

All elements of the STP2 have been assessed against the ISA2 Framework with consideration given to the existing and future baseline conditions, issues and trends relevant to each objective, in order to understand the extent to which the policies and positions included within the STP2 are likely to contribute towards the achievement of the ISA2 objectives.

It is important to note that within the ISA2 assessments, we have acknowledged where there is uncertainty within policies when being scored against the ISA2 Framework. Where mitigation is outside of TfN’s remit, and would be addressed at the design stage or project level, we have not considered it appropriate or proportionate for those policies to be amended as this level of detail would be led and delivered by the local transport authorities and strategic delivery authorities. Therefore, whilst TfN would not have direct responsibility over these measures, we have highlighted this to support collaborative working between TfN and delivery authorities to minimise the adverse environmental and social impacts, as outlined within the Action and Impact Framework, which is included as part of the STP2.

3.4.1 Objectives Assessment

In order to ensure that the STP2 ambitions, referred to as objectives within this assessment, align closely to the ISA2 Objectives, a compatibility test has been undertaken as part of the ISA2 as the STP2 developed, as required by stage B1 as part of the SEA process. This objectives assessment helps to identify potential synergies or inconsistencies which can help refine the STP2 Objectives, as well as identifying any potential alternatives.

STP2 objectives were assessed against the ISA2 Framework utilising the key outlined in Table 3 to highlight the compatibility with the STP2 Objectives. This was undertaken at each stage of assessment as the STP2 objectives were developed. The complete assessments can be found in Appendix C.

Table 3: STP2 ISA2 Objectives Key

✓	Broadly Compatible
X	Potential Conflict
?	Dependent upon nature of implementation measures
NR	Not relevant

3.4.2 Policy Assessment

The assessment of the policies, as required by Stage B of the IA process, were scored on a qualitative nine-point scoring scheme, shown below in Table 4 to assess the significance of

predicted effects of the proposals in the STP2. This scoring system sought to capture both the nature and the scale of predicted effects arising from the measures set out in the STP2. Alongside the overall summary rating (colour and symbol), the ISA2 sought to identify the nature of the effects of the STP2 on the ISA2 objectives according to the level of detail required by the SEA Directive.

This meant determining, where possible, whether each effect was a primary or secondary effect; whether it would lead to cumulative or synergistic effects when considered alongside other plans, policies and programmes; whether the effect will be short, medium or long-term in duration; and whether the effect will be permanent or temporary. The ISA2 scoring system is the same as previously used in the Integrated Sustainability Assessment 1 of the STP1 completed in 2017 and 2018 for consistency.

The assessment of the policies within the STP2 included considering the potential effects of the policies and determining their significance. There are several factors that will determine the significance of an effect, for instance its scale and permanence and the nature and sensitivity of the receptor, factors which are a matter of judgement. It is important that the judgements of significance are systematically documented, in terms of the particular characteristics of the effect which are deemed to make it significant and whether and what uncertainty and assumptions are associated with the judgement.

Table 4: Assessment Tables Key

Terms		Effects					Assessment	
		Mag	Scale	Dur	T/P	Cert	Scale	Category
Mag	Magnitude	✓✓	Local	ST-MT	Temp	Low	+++	Large beneficial
Scale	Geographic Extent	✓	Loc-Reg	ST-LT	Perm	Med	++	Moderate beneficial
Dur	Duration	-	Reg-Nat	MT-LT		High	+	Slight beneficial
T/P	Temporary/Permanent	?		ST			0	Neutral
Cert	Certainty	X		MT			-	Slight adverse
ST	Short Term	XX		LT			--	Moderate adverse
MT	Medium Term						---	Strong adverse
LT	Long Term						?	Uncertain
Sm	Summary Assessment						+/-	Combination

Moderate and strong beneficial and adverse effects (and combination of this type of effect) have been considered of significance, whereas no effect and slight beneficial and adverse effects (and combination of this type of effect) have been considered non-significant.

As part of the assessment, a number of mitigation or enhancement measures have been suggested; these can be seen in the policy assessment tables found in Appendix D. The term mitigation comprises recommendations aimed at reducing or offsetting any significant adverse environment effects that have been identified. Enhancement comprises recommendations aimed at improving positive effects further, for instance improving green infrastructure.

As required by the SEA Directive, the assessment of the effects includes secondary, cumulative and synergistic effects. Secondary effects are effects that are not a direct result of the plan, but occur away from the original effect e.g. improved active travel infrastructure encourages people to walk and cycle and thus affects car use in the surrounding area. These effects are not cumulative and have been identified and assessed primarily through the examination of the relationship between various objectives during the Assessment of Effects.

Cumulative effects arise where proposals may not have a significant effect on their own, but in combination with other proposals have a significant effect. Cumulative effects can be:

- Additive – the simple sum of all the effects;
- Neutralising – where effects counteract each other to reduce the overall effect;
- Synergistic – is the effect of two or more effects acting together which is greater than the simple sum of the effects when acting alone. For instance, a wildlife habitat can become progressively fragmented with limited effects on a particular species until the last fragmentation makes the areas too small to support the species at all.

Cumulative effects cause many sustainability problems, which can be difficult to deal with on a project-by-project basis through Environmental Impact Assessment. They are most effectively identified and addressed at the strategic level. Cumulative effects assessment is a systematic procedure for identifying and evaluating the significance of effects from multiple activities. The analysis of the causes, pathways and consequences of these effects is an essential part of the process.

3.4.3 Reasonable Alternatives Assessment

Reasonable alternatives need to be considered as part of the ISA2. The SEA Directive has a requirement for the Environmental Report to consider:

“reasonable alternatives taking into account the objectives and the geographical scope of the plan

or programme’ and ‘give an outline of the reasons for selecting the alternatives dealt with’ (Article 5.1 and Annex lh) ”.

Additionally, Planning Practice Guidance states that:

“Sustainability appraisal should predict and evaluate the effects of the preferred approach and reasonable alternatives and should clearly identify the significant positive and negative effects of each alternative.” (PPG: Paragraph: 018 Reference ID: 11-018- 20140306).

Alternative scenarios developed by TfN were scored using the same assessment approach and qualitative nine-point scoring scheme used for the policies assessment, outlined above in section 3.4.2 and Table 4, to assess the significance of predicted effects of the proposals on the plan area. This is for consistency and transparency within the ISA2 assessment process. However, it is important to recognise that the scenarios may not be developed to the same level of detail and clarity as policies within the STP2 consultation plan. Mitigation measures have been suggested as part of the assessment process and these can be seen in the reasonable alternatives assessment tables found in Appendix E.

4. Plans, Programme and Strategies Review

The STP2 and the ISA2 have been influenced by a diverse range of legislation, plans, strategies, programmes and policies on local, regional, national and European scales from stakeholders and other plan-making organisations and delivery partners. As these plans can direct and drive the STP2 and the ISA2, all relevant plans, programmes and strategies therefore need to be considered when creating the ISA2 Framework. Therefore, this review has a fundamental role within the ISA2.

This is a requirement of the SEA Directive:

“The plan’s relationship with other relevant plans and programmes’ and ‘the environmental protection objectives, established at international, (European) Community or national level, which are relevant to the plan...and the way those objectives and any environmental considerations have been taken into account during its preparation”. Directive 2001/42/EC – SEA Annex 1 (a), €

The first stage of developing the ISA2 Framework baseline was therefore to review relevant plans, programmes and strategies. This review sought to:

- Ensure the STP2 and the ISA2 Framework are in line with the requirements of relevant plans, programmes and strategies;
- Identify inconsistencies or constraints to be dealt with; and
- Identify objectives and key assessment criteria that should be reflected in the ISA2.

The most recently published versions of the relevant plans, strategies and programmes have been reviewed and the implications for the ISA considered. The review has been built upon work previously completed in the ISA1 of the STP1 completed in 2017 and 2018 for consistency.

The full review of the relevant documents can be found in the ISA2 Scoping Report – Appendix C, included in Appendix A of this ISA2 Report. Key matters and opportunities found from this review are summarised below:

Community Safety

- Encourage the creation of safe, inclusive, fair, tolerant and cohesive communities;
- support reductions in crime and anti-social behaviour; and
- improve perceptions of communities as safe places to live, work and visit.

Economic

- Promote improved accessibility to jobs through improved transport links;
- support growth in employment and labour productivity;
- support improvements in GVA per capita;
- support the attraction of inward investment;
- support improved reliability of rail and road journey's for business users;
- support local businesses;
- support measures that enhance the local economy and overall prosperity; and
- enhance the local skills base.

Environment

Climate Change

- Support a reduction in transport related energy consumption and fossil fuel use;
- promote GHG emissions reductions from surface transport, particularly carbon dioxide;
- support the use of renewable energy for transport applications and increased energy efficiency for vehicles and transport infrastructure, through the use of new, clean technologies; and
- promote measures to adapt to climate change.

Transport

- Promote mixed-use development and the connection of key regeneration sites by public and active transport to reduce the need to travel;
- encourage the improvement of local air quality by encouraging mode shift to walking, cycling and public transport;
- promote reduced traffic congestions and the improvement of road safety for all users;
- promote clean vehicle technology and alternatives to road travel, including road haulage; and
- promote the integration, maintenance and improvement of the public right of way and wider access network.

Natural Resources and Waste

- Encourage efficient resource use, minimise resource footprint and raise awareness of resource use/use;
- support the use of secondary and recycled materials and consider opportunities to maximise on-site re-use of materials; and
- encourage the reduction of the amount of waste disposed of at landfill.

Land

- Encourage the use of the brownfield/greenfield hierarchy of land use;
- support the protection of farmland and soils.

Water

- Support the improvement of the quality (biological and chemical) of ground and surface water;
- encourage the use of nature based solutions for drainage as part of Sustainable Drainage Systems;
- support the minimisation of risk and impact of flooding;
- help prepare for impacts of climate change, including sea level rise, coastal squeeze and coastal erosion.

Biodiversity

- Contribution to the delivery of local and national Biodiversity Action Plans and Local Nature Recovery Strategies;
- encourage the protection and enhancement of existing wildlife and endangered species, by supporting the provision of opportunities for new habitat creation;
- support and increase in tree cover and the sustainable management of existing woodland;
- promote the protection, maintenance and where possible enhancement of natural habitat networks and green infrastructure, to avoid fragmentation and isolation of networks;
- support the protection and enhancement of designated nature conservation sites of international importance (SPA/SAC) and national importance (SSSI); and

- promote access and understanding of nature and biodiversity.

Landscape

- Support the protection and enhancement of landscape and townscape character and local distinctiveness.

Heritage

- Support the conservation and enhancement of designated and non-designated historic assets through sympathetic design and preserving local distinctiveness;
- encourage improved access to buildings and landscapes of historic/cultural value; and
- encourage the use of architectural design to enhance the local character and "sense of place" of development.

Equality

- Promote the protection of human rights and fundamental freedoms;
- support the prevention of discrimination, harassment and victimisation;
- promote equality of opportunity in the way services are planned, promoted and delivered;
- treat everyone with dignity and respect;
- recognise peoples' different needs;
- promote the creation of active, safe, inclusive, fair, tolerant and cohesive communities;
- promote improved economic, social and environmental conditions in the most deprived areas;
- support fair access to and distribution of resources across the community;
- address the needs of, and impacts upon, diverse communities;
- support the creation of a sense of place and belonging for all members of the community;
- promote physical access for those with disabilities; and
- encourage the minimisation of isolation for vulnerable people.

Health

- Promote improvement in local health and wellbeing;

- support a reduction in health inequalities among different groups within the community;
- support transport measures that address pockets of deprivation;
- support the improvement of disability access;
- encourage improved access to local health care facilities;
- promote opportunities for increased physical activity; and
- consider how to support an aging population.

5. Baseline Information

An exercise was undertaken to determine the baseline context across a diverse range of key issues covering economic, environmental and societal aspects. This was undertaken because in order to assess the potential implications of the STP2 across the North on a range of aspects, it is necessary to create a baseline against which predicted effects can be assessed. Therefore, this baseline review has a fundamental role within the ISA2. The baseline evidence collated and analysed is summarised within the appendix A of the Scoping Report, found in Appendix A of this ISA2 Report.

The Environmental Assessment of Plans and Programmes Regulations 2004 require this collation and analysis of data:

“relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan” and the *“environmental characteristics of the areas likely to be significantly affected”* (Annex I (b) (c))

“any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 79/409/EEC (Birds Directive) and 92/43/EEC (Habitats Directive)” (Annex I (c)).

Additionally, for the SA, EqIA and HIA this baseline analysis must also consider social and economic aspects in addition to the environmental criteria specified in the SEA Directive. The baseline review provides the basis for assessing the effects of the STP2.

A diverse range of topics were explored to provide a broad and diverse baseline for the ISA2 Framework. These topics are on a range of issues and interlink between economic, societal (including health, safety and equality) and environmental matters, mirroring the plans, programme and strategies review outlined in Section 5.

We utilised indicators per each topic matter to ensure that data collected was focussed and effective, covering the TfN geography in a uniform manner. These indicators are objective with datasets used over time to provide insight into general trends that the TfN geography has previously, is currently and likely to experience in the future. This exercise drew upon reliable secondary sources of data rather than embarking upon primary data collection. Where there are gaps within the data these

were highlighted within the relevant sections. The ISA2 is an iterative process. This allowed the ISA2 process to be flexible and responsive to any legislative, policy or baseline condition changes, ensuring a continued robust baseline analysis for the ISA2 Framework.

Data was taken from the most recent and reliable publicly available sources with information being accurate at the time of writing to our knowledge and understanding. Datasets used vary between local authorities and the previous LEP network across the 12 topics, due to the different methods and scale of data collection and analysis that has been undertaken by those organisations.

Some data within the review is from before the COVID-19 pandemic. We note the impact the pandemic has had on all topics covered within the ISA2 and we have used the most reliable and recent information where possible to ensure all implications have been considered but note that there may be additional impacts not covered from datasets from before 2020. In addition, we note that the Census for 2021 has not been fully released and therefore we utilised the previous Census from 2011 within some of the review to ensure a uniformed data collection across the North.

The analysis built upon work previously completed for the ISA1 of the STP1 completed in 2017 and 2018 for consistency, as well as any further evidence from TfN and other public bodies. Data has been collated and analysed for the following indicators:

Environmental Data

- Greenhouse gas emissions
- Climate Change
- Local Air Quality
- Noise
- Biodiversity
- Landscape and Townscape
- Green Space
- Soil
- Water quality
- Flooding

Economic Data

- Employment
- Economic sectors, including those related to rural output
- Performance gap and sub-regional performance
- Overview of each previous LEP area as noted in NPIER
- Identification of economic centres

Social Data (including Health, Equalities and Community Safety)

- Population and diversity
- Heritage assets
- General health statistics
- Accessibility
- Road safety and accidents
- Physical activity in children and adults
- Equality target groups
- Multiple deprivation

It is noted that these indicators have been grouped into three overarching topics however the indicators are interdisciplinary and therefore impact and influence each overarching topic.

5.1.1 Environmental Implications for the ISA2 Framework

Since the previous ISA1 Framework, there have been significant changes and newly published information regarding environmental topics, with a greater focus regarding Climate Change and the need to adapt and mitigate during the STP2 plan period. Therefore, amendments were made to the existing objectives regarding greenhouse gas emissions and extreme weather to cater for the needed adaptation measures (ISA1 Objectives 1 and 5) and a new objective was added to focus on reducing emissions, responding to Climate Change mitigation measures. This new objective has been incorporated into the criteria included in ISA1 Objective 11 and has therefore been removed from the ISA2 Framework.

Additionally, increasing air pollution, the need to protect environmental sites and create and conserve green and blue infrastructure (including biodiversity and flood risk) across the North to support tackling Climate Change, result in the existing objectives (ISA1 Objectives 2, 3, 4, 6 and 13) needing to remain and amendments were made to cater to the new published data included within this baseline analysis surrounding these topics to appropriately assess the STP2.

We note the importance of protecting and enhancing important historic and cultural assets, landscapes and townscapes across the North. It was felt that from this updated baseline the previously used ISA1 Objectives 8 and 9 would continue to appropriately assess the STP2 with some minor amendments to ensure the objectives are fit for purpose.

We note the importance of minimising the production of waste, supporting recycling and utilising natural resources appropriately. It was felt that from this updated baseline the previously used ISA1

Objectives 7 and 10 would continue to appropriately assess the STP2 with some minor amendments to ensure the objectives are fit for purpose.

The Scoping Report – Appendix D, included within Appendix A of this ISA2 Report, outlines the changes implemented to the ISA2 objectives from the previously used ISA1 objectives.

5.1.2 Social Implications for the ISA2 Framework

We note the importance of protecting designated cultural and heritage assets across the North and the changes since the previous Scoping Report surrounding UNESCO sites. It was felt that from this updated baseline the previously used ISA1 Objectives 8 and 9 would continue to appropriately assess the STP2 with some minor amendments to ensure the objectives are fit for purpose.

We note the changes in the most recently published datasets relating to crime, road safety, deprivation and inequality, human health and activity and overall population across the TfN geography. It was felt that the existing objectives regarding equality, health and wellbeing and safety (ISA1 Objectives 14, 15 and 16) were still appropriate to assess the STP2 however they were amended to reflect the newly published data within this baseline analysis surrounding these topics.

Following the publication of STP1 and TfN's other published works such as the Decarbonisation Strategy and other recently published reports regarding sustainable transportation for example the Net Zero Strategy to Build Back Greener in addition to the COP26 declaration to accelerate the transition to electric cars and vans by 2040, it was felt that the ISA Objective 11 was not suitable to assess the STP2. Therefore, this objective has been removed and replaced with a new objective which resulted in amendments to multiple ISA Objectives to ensure a complete assessment of this topic. Therefore, a new objective was required focusing on reducing emissions in addition to amendments within ISA1 Objectives 1, 5, 12 and 13.

We note the importance of tackling Transport Related Social Exclusion and the wider implications it has on society. It was felt that from this updated baseline the previously used ISA1 Objectives 14, 15 and 16 would continue to appropriately assess the STP2 with amendments to ensure the objectives are fit for purpose.

Following the publication of STP1 there has been a significant shift regarding the Levelling Up Agenda across England with the culmination of the recent publication of the White Paper in February 2022. This has changed the policy landscape of the TfN geography and has therefore been considered within the ISA2 Framework.

In addition, the Covid-19 Pandemic over the past two years has had a monumental impact across the TfN geography and has been considered with the ISA2 Framework. Due to its significant

importance, the pandemic has been flagged here; however, due to the strategic nature of the STP2, the localised implications have not been included within the ISA2. It was felt that ISA1 Objectives 14 and 15 are still appropriate to assess the STP2, with minor amendments to reflect this newly published data within this baseline analysis surrounding these topics to appropriate assess the STP2.

The Scoping Report – Appendix D, included within Appendix A of this ISA2 Report, outlines the changes implemented to the ISA2 objectives from the previously used ISA1 objectives.

5.1.3 Economic Implications for the ISA2 Framework

We note the changes in the most recently published datasets relating to economic performance, employment, qualifications, businesses and overall population across the TfN geography. It was felt that the existing objectives regarding economic prosperity and equality (ISA1 Objectives 12 and 14) were still appropriate to assess the STP2 however, they have been amended to reflect this newly published data within this baseline analysis surrounding these topics to appropriate assess the STP2.

The Scoping Report – Appendix D, included within Appendix A of this ISA2 Report, outlines the changes implemented to the ISA2 objectives from the previously used ISA1 objectives.

6. ISA2 Framework

6.1 Introduction

The ISA2 Framework provides a means to describe, analyse and compare the implications of the STP2. Based on the robust baseline situation completed in Sections 4 and 5, a series of objectives and assessment criteria have been developed to create a bespoke framework for the STP2. These objectives reflect environmental, economic and societal aspects that the STP may have an impact upon or influence over.

Assessing the STP2 against this Framework allows us to shape the STP2 so as to minimise the potential sustainability effects of the plan and use it to enhance sustainability outcomes wherever possible. The expectation is that even though some objectives may not be within the STP2s remit or TfN's sphere of influence, that the ISA identifies these risks and opportunities and clearly identifies where, and with whom, the responsibility for the addressing of those objectives lies.

The implications raised within Sections 4 and 5 across environmental, social and economic topics explored within the ISA2 Framework have been considered and actioned within the ISA2 Framework.

6.2 Assessment Framework

Each objective within the ISA2 Framework is accompanied by a set of illustrative assessment criteria which are key to completing the ISA2 of the STP2. The ISA2 Framework objectives are used to assess the SPT2 and provide the benchmark against which the effects and implications of the Plan can be tested. The objectives outlined within the ISA2 Framework are developed in accordance with the SEA definition:

An objective is “to provide for a high level of protection of the environment and contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development” SEA Directive, Article 1

Assessment criteria support the objectives, helping guide the assessment team to decide if the STP2 policies meet the objectives. The assessment criteria are a series of considerations which are based on the specific matters, as defined under each baseline topic in Sections 4 and 5. Using assessment criteria within the ISA2 helps the assessment team arrive at a conclusion about impacts in a consistent and transparent manner, helping stakeholders understand the reasoning behind the assessment. These assessment criteria can also be utilised in later IA stages for consideration within the monitoring programme.

The ISA2 Framework is made up of 16 objectives, each with assessment criteria, which have been developed from the baseline analysis explained in Sections 4 and 5. These objectives cover all matters explored including economic, environmental, health, equality and safety, meeting all scoping requirements of the assessments within the ISA2. In addition to the 16 ISA2 objectives, there are also sub-objectives for the EqIA and HIA.

The objectives and assessment criteria can be found in Table 5. The ISA2 Framework was utilised within Stage B of the IA process outlined in Section 3.3. These objectives have been mapped against the identified key ISA topics to highlight how each topic area has been directly reflected in the ISA2 Framework, as shown in Table 5.

The ISA2 Framework has been built upon work previously completed in the ISA1 of the STP1 completed in 2017 and 2018 for consistency.

Table 5: The ISA2 Framework

No.	ISA2 Objective	Assessment Criteria	ISA Topic(s)
1	Reduce greenhouse gas emissions from surface transport in the North	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Encourage a reduction in private car vehicle mileage? • Encourage a greater proportion of passenger and freight movement by lower carbon modes? • Support more sustainable travel choices through enhanced public transport availability, convenience, accessibility and affordability? • Promote a wider choice of passenger travel through quality integrated facilities and services, walking and cycling improvements, demand management, network management, travel planning and intelligent transport systems? • Encourage greater carbon efficiency in the movement of goods and people? 	Climate Change and Energy Transport

No.	ISA2 Objective	Assessment Criteria	ISA Topic(s)
		<ul style="list-style-type: none"> • Encourage use of innovative new low and zero carbon transport technologies? • Encourage use of the transport estate for low carbon energy generation? • Support the minimisation of dependence upon the private car? • Consider the specific transport needs of rural communities? • Encourage the prioritisation of Climate Change mitigation and adaptation? 	
2	Minimise embedded emissions from the development of new transport infrastructure and the maintenance of existing infrastructure	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Support a reduction in embedded and construction carbon within the North’ s infrastructure investment programmes? • Encourage the use of the transport estate for low carbon energy generation and investable offsetting schemes for hard to abate sectors (e.g. aviation)? • Encourage the use of innovative low carbon construction materials and techniques? 	Climate Change and Energy Transport
3	Protect and enhance the biodiversity, geodiversity and the green infrastructure network	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Avoid direct or indirect significant adverse effects on designated habitats and protected species, including through transport related vibration, air and noise pollution? • Promote good design, in relation to major transport infrastructure, to maximise ecological connectivity and to secure an overall Biodiversity Net Gain, Environmental 	Biodiversity

No.	ISA2 Objective	Assessment Criteria	ISA Topic(s)
		<p>Net Gain and Natural Capital enhancement for the North?</p> <ul style="list-style-type: none"> • Encourage the protection and creation of nature-based carbon sinks within and alongside the transport estate? • Support the development of Local Nature Recovery Strategies? 	
4	<p>Conserve and enhance internationally designated environment sites</p> <p><i>HRA Macro-Objective</i></p>	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Affect international sites designated for nature conservation identified as part of the HRA screening process (including positive and negative effects)? 	Biodiversity
5	<p>Protect and enhance local air quality</p>	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Support the minimisation of emissions of air pollutants and enhancement of air quality particularly in areas with low air quality (e.g. AQMAs) and where this pollution disproportionately affects vulnerable populations? • Support an improvement in air quality through reduced traffic levels and congestion, and enabling modal shift away from private car use? 	Air Quality
6	<p>Increase resilience of the transport network</p>	<p>Will the STP2...</p>	Climate Change and Energy

No.	ISA2 Objective	Assessment Criteria	ISA Topic(s)
	to extreme weather events and a changing climate	<ul style="list-style-type: none"> • Increase the understanding of our transport system’s vulnerability to climate change effects? • Promote an increase in the resilience of the transport network to extreme weather events and a changing climate through nature-based solutions? • Encourage adaptive management and design to respond to uncertainties in climatic effects and scheme requirements 	Transport
7	Protect and enhance the blue infrastructure network including inland and coastal water environments	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Support the protection of the quality of inland and coastal surface water and groundwater resources? • Support the use of Nature-based solutions to protect aquatic habitats? 	Water Resources, Flooding and Water Quality
8	Protect and conserve soil and remediate and avoid land contamination	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Encourage construction on previously developed land / minimise use of greenfield? • Support the prevention of disturbance, harm, contamination, or permanent loss (irreversible) of the most highly productive agricultural soils? • Support the remediation of contamination land? • Encourage the protection of peatlands? 	Land Use, Soils and Agriculture

No.	ISA2 Objective	Assessment Criteria	ISA Topic(s)
9	Support the conservation and enhancement of the quality and distinctiveness of historic assets, industrial and cultural heritage and their settings	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Support the conservation, protection and enhancement of the region's cultural and designated / non-designated historic assets (e.g. locally important buildings, archaeological remains, World Heritage Sites, Scheduled Monuments, Listed Buildings and structures, registered Parks and Gardens, Registered Battlefields and Conservation Areas), their integrity and their settings? • Support the improvement of access to historic / culturally important sites by sustainable transport modes? • Support the appropriate management elements of the transport infrastructure which are designated heritage assets? 	Cultural Heritage
10	Protect and enhance the character and quality of landscapes and townscapes	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Encourage design, construction, repair and maintenance of transport infrastructure (and associated green / blue infrastructure) that respects and enhances the landscape character and townscapes of the north of England? 	Landscape and Townscape
11	Promote the prudent use of natural resources, minimise the production of waste and support the re-use and	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Help to enable new / upgraded infrastructure to be resource efficient (materials, energy, water, sustainable procurement etc) in construction and operation? • Promote sustainable waste management practices? 	Natural Resources and Waste

No.	ISA2 Objective	Assessment Criteria	ISA Topic(s)
	recycling of materials	<ul style="list-style-type: none"> • Encourage the use of recycled or secondary materials? • Promote the use of local suppliers and locally produced materials in construction? • Support a reduction in fuel use by encouraging the use of more sustainable modes of transport? 	
12	Enhance long term economic prosperity and promote a clean and green economic transformation	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Support delivery of better and more sustainable connections (passengers and freight) between the North's cities, with other regions and internationally and between regions and counties within the North? • Support the improvement in the reliability and resilience of the North's strategic road and rail networks? • Support the improvement of overall journey times (passengers and freight), travel convenience and reliability? • Promote local requirements to guide investments to connect to regional and national networks? • Encourage the optimisation of potential economic outcomes for the North from decarbonisation of transport? (e.g. alternative fuels or propulsion technologies) • Contribute to establishing an effective transport network that increases investment? 	Employment and Economics

No.	ISA2 Objective	Assessment Criteria	ISA Topic(s)
		<ul style="list-style-type: none"> • Support improved availability and accessibility to good quality employment and skills development opportunities? • Support economic activities in rural areas? • Help reduce the GVA per capita gap between the Northern economy and the rest of England? • Help improve labour market participation, productivity and reduce inactivity across the region? • Promote a modal shift to active travel through high-quality green infrastructure to improve people’s mental and physical health? 	
13	Coordinate land use and strategic transport planning across the region	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Support the development of compact, higher density mixed use development coordinated with transport infrastructure? • Support the development of connected communities? • Support housing and employment development in areas that are or will be served by public and active rail transport? 	Land Use, Soils and Agriculture
14	Promote greater equality of opportunity for all citizens and reduce Transport Related Social Exclusion	See the EqIA Sub-Objectives	Population (inc. equality, accessibility and

No.	ISA2 Objective	Assessment Criteria	ISA Topic(s)
	(TRSE), particularly for the North' s most vulnerable groups. <i>EqIA Macro-Objective</i>		community safety)
15	Improve the health and wellbeing for all citizens and reduce inequalities in health <i>HIA Macro-Objective</i>	See the HIA Sub-Objectives	Human Health and Healthcare Population
16	Promote community safety and reduce crime and the fear of crime for all citizens <i>HIA Macro-Objective</i>	See the HIA Sub-Objectives	Population

Table 6: EqIA Sub-Objectives

No.	ISA2 Objective	EqIA Sub-Objective	Assessment Criteria	ISA Topic
14a	Promote greater equality of opportunity for all citizens, and reduce Transport Related Social Exclusion (TRSE), particularly for the North’s most vulnerable groups	Improve extent and quality of public travel and active travel connections to services, facilities and amenities	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Support improved access to essential facilities, including employment, healthcare and education, particularly for those on low-incomes, people with disabilities and long term health conditions, carers, and those in areas with a high risk of transport-related social exclusion? • Support improved walking, cycling and public transport services and facilities in areas with a high risk of TRSE? • Support improved high-quality green infrastructure? • Promote a transport system that meets the needs of everyone, including those with a physical or learning disability and those with limited mobility? • Encourage the provision of transport services that are welcoming for all 	Population

No.	ISA2 Objective	EqIA Sub-Objective	Assessment Criteria	ISA Topic
			<p>groups of society to increase availability of travel options?</p> <ul style="list-style-type: none"> Support the improved access to information for all users for the purpose of promoting travel options? 	
14b	<p>Promote greater equality of opportunity for all citizens, and reduce Transport Related Social Exclusion (TRSE), particularly for the North's most vulnerable groups.</p>	<p>Improve affordability of transport</p>	<p>Will the STP2...</p> <ul style="list-style-type: none"> Support the provision of transport services that are financially accessible for all? Facilitate the provision of transport services that provide appropriate and/or statutory fare structures for vulnerable users (i.e. concessionary fares on public transport services)? Promote the use of technology to reduce transport costs for users, e.g. integrated ticketing and smart cards? 	<p>Population</p>
14c	<p>Promote greater equality of opportunity for all citizens, and</p>	<p>Reduce severance</p>	<p>Will the STP2...</p> <ul style="list-style-type: none"> Support the enhancement of better access to essential facilities and 	<p>Population</p>

No.	ISA2 Objective	EqIA Sub-Objective	Assessment Criteria	ISA Topic
	<p>reduce Transport Related Social Exclusion (TRSE), particularly for the North's most vulnerable groups</p>		<p>community assets to reduce any existing severance issues?</p> <ul style="list-style-type: none"> • Consider the physical and perceived impact of the transport system on the local environment and local communities? • Support the reduction in the dominance of traffic on residential roads and in proximity to key services? • Support the improvement of public realm and overall environment and reduce road vehicle behaviours that affect accessibility for active and public transport users in areas with a high risk of TRSE (e.g. pavement parking)? 	

Table 7: HIA Sub-Objectives

No.	ISA2 Objective	HIA Sub-Objective	Assessment Criteria	ISA Topic Matters
15a	Improve the health and wellbeing for all citizens and reduce inequalities in health	Improve accessibility to services and facilities that improve health outcomes	<p>Will the STP2...</p> <ul style="list-style-type: none"> • Support residential, commercial, community facilities and recreational developments that are accessible by active travel and public transport, including for vulnerable groups? • Prevent disproportionate health benefits/harms for some groups more than others? • Promote accessibility (particularly on foot, cycling or public transport) to open space, nature and recreational activities (e.g. playing fields, sports facilities, footpaths or National Trails), particularly for vulnerable groups? • Encourage more people to integrate physical activity into their everyday journeys (either as complete active travel 	Human Health and Healthcare Population

No.	ISA2 Objective	HIA Sub-Objective	Assessment Criteria	ISA Topic Matters
			<p>journeys or as part of a multi-modal journey)?</p> <ul style="list-style-type: none"> Prevent impacts on the quality and extent of existing recreational assets, such as formal or informal footpaths including National Trails? 	
15b	<p>Improve the health and wellbeing for all citizens and reduce inequalities in health</p>	<p>Reduce transport related vibration, air and noise pollution.</p>	<p>Will the STP2...</p> <ul style="list-style-type: none"> Support the reduction of the transport impact on vibration, air quality and noise, particularly around vulnerable users such as children, older people and deprived areas? 	<p>Human Health and Healthcare Population</p>
16a	<p>Promote community safety and reduce crime and the fear of crime for all citizens</p> <p><i>Community Safety Micro-Objective</i></p>	<p>Improve road safety and reduce the number of accidents and other incidents</p>	<p>Will the STP2...</p> <ul style="list-style-type: none"> Promote the enhancement of road safety and reduce the number of road traffic incidents for everyone but particularly for vulnerable users Support the reduction of levels of private car use, reduce levels of car dominance (e.g. pavement parking) and providing safer environments for 	<p>Human Health and Healthcare Population</p>

No.	ISA2 Objective	HIA Sub-Objective	Assessment Criteria	ISA Topic Matters
			<p>everyone those walking, cycling, and wheeling?</p> <ul style="list-style-type: none"> • Reduce the potential for collisions and accidents involving wildlife, particularly protected species, which could affect the safety of people using the transport network, the efficiency of that network and the future of individuals and populations of protected species? 	
16b	<p>Promote community safety and reduce crime and the fear of crime for all citizens</p> <p><i>Community Safety Micro-Objective</i></p>	<p>Improve actual and perceived safety and security issues</p>	<p>Will the STP2....</p> <ul style="list-style-type: none"> • Promote improvements of public realm and levels of natural surveillance to create a more welcoming environment for travel, physical activity, and accessing key facilities? • Promote increased provision of safe facilities for those utilising public transport, walking and cycling? • Create a more welcoming environment for travel and accessing key facilities for 	<p>Human Health and Healthcare Population</p>

No.	ISA2 Objective	HIA Sub-Objective	Assessment Criteria	ISA Topic Matters
			all, but particularly women, those with disabilities, LGBT people, low-income groups and ethnic minorities?	

7. Compatibility Assessment

To help ensure that the objectives of the STP2 are as closely aligned with the ISA2 Framework as possible, a test of their compatibility has been undertaken at each iterative stage of the plan's development. This test helps identify potential synergies and inconsistencies and helps refine the STP2 plan objectives as well as identifying strategic alternatives.

7.1 November 2022

The draft STP2 objectives that were considered at the early stages of development of the STP2 were as follows:

- Transform Economic Performance
- Rapid Decarbonisation of Surface Transport
- Reducing Transport Related Social Exclusion

Each of the STP2 objectives provided by TfN also had a number of sub-objectives which were also considered as part of this assessment.

Summary of Findings

The assessment process highlighted areas where the STP2 Plan objectives could be enhanced and strengthened. The assessment found that there were no STP2 Plan objectives scored with a 'Potential conflict' against the ISA2 objectives.

There were three ISA2 objectives found to be scored as 'Dependent upon nature of implementation measures' or 'Not relevant', with no 'Broadly compatible' score across the three STP2 plan objectives:

- ISA2 Objective 8: Protect and conserve soil and remediate and avoid land contamination.
- ISA2 Objective 9: Support the conservation and enhancement of the quality and distinctiveness of historic assets, industrial and cultural heritage and their settings.
- ISA2 Objective 10: Protect and enhance the character and quality of landscapes and townscapes.

Therefore, it was advised that additional consideration be given to these ISA2 objectives in relation to the STP2 Plan objectives where appropriate. To enhance the three plan objectives across the ISA2 objectives, the following enhancements were suggested for STP2 plan writers to consider:

- STP2 objectives could make explicit reference to sustainable economic growth, cognisant of the climate crisis and the need to utilise resources (for example land management, fossil and alternative fuels and existing infrastructure) efficiently and effectively to adapt and mitigate the effects of climate change
- STP2 objectives could make explicit reference to optimising opportunities to enhance the natural (such as green and blue infrastructure, landscapes and biodiversity) and historic environments (such as heritage assets and townscapes).

A summary of the assessment is shown in Figure 3. The full assessment can be found in Appendix C.

Figure 3: ISA2 Compatibility Assessment Summary (November 2022)

TFN Strategic Transport Plan Objectives		Integrated Sustainability Appraisal 2 Objectives															
		1. Reduce Greenhouse gas emissions from surface transport in the North	2. Minimise embedded emissions from the development of new transport infrastructure and the maintenance of existing infrastructure	3. Protect and enhance the biodiversity, geodiversity and the green infrastructure network	4. Conserve and enhance internationally designated environment sites	5. Protect and enhance local air quality	6. Increase resilience of the transport network to extreme weather events and a changing climate	7. Protect and enhance the blue infrastructure network including inland and coastal water environments	8. Protect and conserve soil and remediate and avoid land contamination	9. Support the conservation and enhancement of the quality and distinctiveness of historic assets, industrial and cultural heritage and	10. Protect and enhance the character and quality of landscapes and townscapes	11. Promote the prudent use of natural resources, minimise the production of waste and support the re-use and recycling of materials	12. Enhance long term economic prosperity and promote a clean and green economic transformation	13. Coordinate land use and strategic transport planning across the region	14. Promote greater equality of opportunity for all citizens and reduce Transport Related Social Exclusion (TRSE) particularly for the North's most vulnerable groups	15. Improve the health and wellbeing for all citizens and reduce inequalities in health	16. Promote community safety and reduce crime and the fear of crime for all citizens
i.	Transform Economic Performance	?	?	?	?	?	?	?	?	?	?	?	✓	✓	✓	✓	?
ii.	Rapid Decarbonisation of Surface Transport	✓	✓	✓	✓	✓	✓	?	?	?	✓	✓	✓	NR	✓	NR	
iii.	Reducing Transport Related Social Exclusion	?	NR	NR	NR	✓	✓	NR	NR	NR	NR	NR	✓	✓	✓	✓	

7.2 January 2023

The draft STP2 objectives that were considered at the next stage of development of the STP2 were as follows:

- Transform Economic Performance
- Rapid Decarbonisation of Surface Transport
- Reducing Transport Related Social Exclusion

Each of the STP2 objectives provided by TfN also had a number of sub-objectives which were also considered as part of this assessment.

7.2.1 Summary of Findings

The assessment process highlighted areas where the STP2 Plan Objectives could be enhanced and strengthened. The assessment found that there were no STP2 Plan Objectives scored with a ‘Potential conflict’ against the ISA2 Objectives.

It was found that all ISA2 Objectives found to be scored at least once as ‘Broadly compatible’ across the STP2 plan objectives following action taken by TfN to update the STP2, following our first assessment in December 2022. It was found there was an increase in ‘Broadly compatible scores’ significantly within this further assessment from 46% to 67% following the amendments made to the STP2 Vision and Objectives. Additionally, there was a reduction in objectives from 20.3% to 6.25% found to be ‘Not relevant’ due to the greater level of information and scope included within the vision and objectives. 27% of objectives were found to be as ‘Dependent upon nature of implementation measures’ which was reduced from 33% within the initial assessment.

Therefore, no areas of specific focus and consideration were given to TfN due to the strengthened text within the STP2’s objectives. In conclusion, the results of the compatibility assessment indicated that the revised STP2 Objectives provide a firm underpinning to help ensure that the sustainability performance of the plan can be maximised.

A summary of the assessment is shown in Figure 4. The full assessment can be found in Appendix C.

Figure 4: ISA2 Compatibility Assessment Summary (January 2023)

TfN Strategic Transport Plan Objectives		Integrated Sustainability Appraisal 2 Objectives															
		1. Reduce Greenhouse gas emissions from surface transport in the North	2. Minimise embedded emissions from the development of new transport infrastructure and the maintenance of existing infrastructure	3. Protect and enhance the biodiversity, geodiversity and the green infrastructure network	4. Conserve and enhance internationally designated environment sites	5. Protect and enhance local air quality	6. Increase resilience of the transport network to extreme weather events and a changing climate	7. Protect and enhance the blue infrastructure network including inland and coastal water	8. Protect and conserve soil and remediate and avoid land contamination	9. Support the conservation and enhancement of the quality and distinctiveness of historic assets, industrial and cultural heritage and	10. Protect and enhance the character and quality of landscapes and townscapes	11. Promote the prudent use of natural resources, minimise the production of waste and support the re-use and recycling of materials	12. Enhance long term economic prosperity and promote a clean and green economic transformation	13. Coordinate land use and strategic transport planning across the region	14. Promote greater equality of opportunity for all citizens and reduce Transport Related Social Exclusion (TRSE) particularly for the North's most vulnerable	15. Improve the health and wellbeing for all citizens and reduce inequalities in health	16. Promote community safety and reduce crime and the fear of crime for all citizens
i.	Transform Economic Performance	✓	✓	?	?	✓	✓	?	?	?	?	✓	✓	✓	✓	✓	?
ii.	Rapid Decarbonisation of Surface Transport	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?
iii.	Reducing Transport Related Social Exclusion	✓	NR	?	?	✓	✓	?	NR	?	?	NR	✓	✓	✓	✓	✓

7.3 March 2023

The third iteration of the STP2 objectives assessment are those contained within the consultation version of the STP2. Arup received the draft STP2 which included amended qualitative text and the previous sub-objectives moved to an annex. The STP2 plan has three objectives, which comprised of:

- Transform Economic Performance
- Rapid Decarbonisation of Surface Transport
- Enhancing Social Inclusion and Health

In previously assessment rounds, appendices were excluded from the ISA2 assessments however in this final policy assessment, Annex 1: STP2 Vision, Strategic Ambitions and SMART Objectives, was included to inform this final assessment, because the annex comprised of further text which support the plan's vision and objectives. Additionally Annex 2: STP2 – Policy and Place Framework, was also assessed as part of this final round of assessments. However, Annex 3: TfN's Monitoring and Evaluation Strategy has not been assessed as part of the ISA2. This annex was not assessed as it was not considered to include 'policy wording'. A summary of the assessment findings is presented below. The full assessment tables can be found in Appendix C.

7.3.1 Summary of Findings

The assessment process highlighted areas where the STP2 Plan objectives could be enhanced and strengthened. The assessment found that there were no STP2 Plan objectives scored with a 'Potential conflict' against the ISA2 objectives. However, the assessment found that ambition 1, Transform Economic Performance, scored lower compared with the January 2023 assessment scores with three objectives changing from 'broadly compatible' to 'dependent upon the nature of implementation measures' due to the change in wording included within the objective. Ambitions 2 and 3 also had amended wording, with the name of ambition 3 being changed within the plan, however they were found to score the same as January 2023 outcomes and were felt to provide a strong basis to help ensure that the sustainability performance of the plan can be maximised.

From this assessment, it is considered that ambition 1 provides a weaker basis, compared to that assessed in January 2023, due to wording changes focusing on the NPIER which gave a reduced level of certainty for future direction surrounding economic growth. To strengthen the STP2, the TfN plan writers are encouraged to review and identify opportunities to make clearer and stronger ambitions for the North for the future to enhance and improve the ISA2 assessment outcomes. A summary of the assessment is shown in Figure 5. The full assessment can be found in Appendix C.

Figure 5: ISA2 Compatibility Assessment Summary (March 2023)

TfN Strategic Transport Plan Objectives		Integrated Sustainability Appraisal 2 Objectives															
		1. Reduce Greenhouse gas emissions from surface transport in the North	2. Minimise embedded emissions from the development of new transport infrastructure and the maintenance of existing infrastructure	3. Protect and enhance the biodiversity, geodiversity and the green infrastructure network	4. Conserve and enhance internationally designated environment sites	5. Protect and enhance local air quality	6. Increase resilience of the transport network to extreme weather events and a changing climate	7. Protect and enhance the blue, infrastructure network including inland and coastal water	8. Protect and conserve soil and remediate and avoid land contamination	9. Support the conservation and enhancement of the quality and distinctiveness of historic assets, ,	10. Protect and enhance the character and quality of landscapes and townscapes	11. Promote the prudent use of natural resources, minimise the production of waste and support the re-use and recycling of materials	12. Enhance long term economic prosperity and promote a clean and green economic transformation	13. Coordinate land use and strategic transport planning across the region	14. Promote greater equality of opportunity for all citizens and reduce Transport Related Social Exclusion (TRSE) particularly for the North's most vulnerable	15. Improve the health and wellbeing for all citizens and reduce inequalities in health	16. Promote community safety and reduce crime and the fear of crime for all citizens
i.	Transform Economic Performance	✓	?	?	?	?	✓	?	?	?	?	?	✓	✓	✓	✓	?
ii.	Rapid Decarbonisation of Surface Transport	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?
iii.	Enhancing Social Inclusion and Health	✓	NR	?	?	✓	✓	?	NR	?	?	NR	✓	✓	✓	✓	✓

8. Assessment of Alternatives

The ISA process places specific emphasis on the consideration of reasonable alternatives. An assessment of reasonable alternatives has therefore been carried out to ensure that the ISA2 adheres to both national policy and legislation. The SEA Directive has a requirement for the Environmental Report to consider:

‘reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme’ and ‘give an outline of the reasons for selecting the alternatives dealt with’ (Article 5.1 and Annex lh)’.

The Planning Practice Guidance states that:

“Sustainability appraisal should predict and evaluate the effects of the preferred approach and reasonable alternatives and should clearly identify the significant positive and negative effects of each alternative.” (PPG: Paragraph: 018 Reference ID: 11-018- 20140306).

The following section outlines the reasonable alternatives and summarises the key findings from the assessment.

8.1 Defining the Reasonable Alternatives

TfN identified three reasonable alternative scenarios which would satisfy the statutory requirements placed upon it to produce a strategic transport plan for the North (see section 1.3). The assessment of these strategic alternatives was carried out by evaluating the performance of each relative to each other, against the ISA2 Framework.

In order to assess the three alternative scenarios against the ISA2 Objectives, a series of assumptions were developed for each. These assumptions, developed by TfN, were based on what are considered likely outcomes from each of the scenarios.

The three alternative scenarios and assumptions are defined in Table 8 below.

Table 8: Alternative Scenarios and Assumptions

Scenario Description	Assumptions
Scenario 1 – Continuation of STP1	
Assumes the provisions and ambitions of STP1 are still in place.	<ul style="list-style-type: none"> • Implementation of a vision of a thriving North of England, where world class transport supports sustainable economic growth, excellent quality of life and improved opportunities for all. • The objectives of the STP1 are: Transforming economic performance; increasing efficiency, reliability, integration and resilience in the transport system; improving inclusivity, health, and access to opportunities for all; and promoting and enhancing the built, historic and natural environment. • This scenario focuses investment on seven identified Strategic Development Corridors that reflect economic links across the North. Each of the Strategic Development Corridors will have a different scale of contribution towards achieving the outcomes of transformational economic growth and therefore different transport needs. • Travel, economic and population growth assumption in line with the Core Scenario within NTEM 2022² and that National Road Traffic Projections 2022³. The Core Scenario is based on ‘firm and funded’ government policy and published plans.
Scenario 2 - Balanced	
Assumes the provisions and ambitions within	<ul style="list-style-type: none"> • The STP2 builds on the original vision in the 2015 Northern Transport Strategy and the first Strategic Transport Plan with a renewed focus on decarbonisation and social opportunity.

² National Trip End Model (NTEM) - data.gov.uk

³ National Road Traffic Projections 2022 - Core Scenario - [National road traffic projections 2022 \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

Scenario Description	Assumptions
STP2 are introduced.	<ul style="list-style-type: none"> • By 2050 the North of England will have become a thriving, socially inclusive region. This will be achieved through a transformed zero emission, integrated, safe and sustainable transport system, that will enhance connectivity, resilience, and journey times for all users. • The STP2 vision is supported by three clear strategic ambitions: enhancing social inclusion and health; transforming economic performance; and rapid decarbonisation of surface transport. • The STP2 sets out policy priorities for 9 distinct place types across the North. • The STP2 retains the seven Strategic Development Corridors identified within the STP1. • The STP2 proposes, as a minimum, a position of no ‘net’ road traffic growth in the North from a 2018 baseline to 2045. This recognises the significant social, economic and environmental benefits that may be derived from reducing car dependency and that greater priority should be given to sustainable modes when considering highway investment. • Road capacity works would be supported, where primarily driven by safety improvement needs or where there is compelling evidence it is required to deliver significant economic and social benefits.
Scenario 3 - Local Modal Shift Max	
Assumes a shift of focus (relative to the Balanced Scenario) towards prioritised investment in local public and	<ul style="list-style-type: none"> • Shares the strategic ambitions of STP2 but aims to achieve them through a stronger focus on reducing road vehicle mileage, relative to technological change.. • Prioritised investment at local level. • Objective to achieve 20% absolute reduction in vehicle mileage within the North as a whole (against 2018 levels).

Scenario Description	Assumptions
active transport infrastructure and services.	<ul style="list-style-type: none"> • Fare subsidies for local public transport. • Local road user charging schemes would be encouraged where both feasible and appropriate with ‘revenue recycling’ back into the provision of enhanced public and active travel offers for those local areas. • Prioritised investment into active travel and micro-mobility facilities to achieve usage rates on a par with the Netherlands. • Modal shift for longer distance trips and measures to increase rail freight will be a lesser priority. • Investment in EV transition and alternative fuels would be left to private investment to enable the transition. • A pause to all road building schemes, unless for safety reasons, would be recommended.

8.2 Reasonable Alternative Assessment Summary

This section outlines the findings of the reasonable alternatives assessment. A summary of the assessment scoring is shown below in Table 9. The full assessment tables can be found in Appendix E.

Table 9: Summary of Assessment Scoring

Scenario/ Objective	ISA2 Obj 1	ISA2 Obj 2	ISA2 Obj 3	ISA2 Obj 4	ISA2 Obj 5	ISA2 Obj 6	ISA2 Obj 7	ISA2 Obj 8	ISA2 Obj 9	ISA2 Obj 10	ISA2 Obj 11	ISA2 Obj 12	ISA2 Obj 13	ISA2 Obj 14a	ISA2 Obj 14b	ISA2 Obj 14c	ISA2 Obj 15a	ISA2 Obj 15b	ISA2 Obj 16a	ISA2 Obj 16b
Continuation of STP1	++	0/?	-	0/?	+/?	++	0/?	0/?	++	0/?	0	+	+++	+	++	+/?	+/?	+/?	0	+
Balanced	+++	0/?	++	+/?	++	++	++	0/?	++	++	+/?	+++	+++	+++	++	++	++	++	+++	++
Local Modal shift Max	+	0	0/?	0/?	++	0/?	0/?	0/?	0/?	+/?	+/?	--	+/?	+	+	+	0/?	++	++	0/?

8.2.1 Balanced Scenario

The assessment of the three alternative scenarios found that the Balanced Scenario performed the best overall across the ISA2 Objectives. The Balanced Scenario performed strongly in relation to reducing emissions from surface transport, enhancing long term economic prosperity, strategic transport planning and promoting greater equality for all and reducing TRSE, strongly supporting the three strategic ambitions of the STP2.

This scenario had an uncertain but slight beneficial impact in relation to ISA2 Objective 11. The STP2 proposes as a minimum, a position of no net traffic growth in the North from a 2018 baseline to 2045, which could have a large beneficial impact in reducing fuel use. However, there is no reference to sustainable construction materials or waste management resulting in a slight positive but uncertain impact when scored against the ISA2 assessment criteria. However, as this intervention relates to the more detailed design or construction stage of development, it is likely to be outside the influence of TfN.

In the Balanced Scenario, as with all the other scenarios, there was uncertainty over ISA2 Objective 2 relating to minimising embedded carbon emissions and ISA2 Objective 8 relating to land contamination. This uncertainty relates to the lack of explicit reference to supporting or enhancing the objective criteria, such as the use of innovative low carbon construction materials and techniques, resulting in a neutral/uncertain impact.

Enhancement and Mitigation

The Balanced Scenario could make explicit reference to encouraging the more prudent use of natural resources, including a reduction in fuel use and resource efficient transport infrastructure both in construction and operation. It could also support the reduction of embedded construction carbon through the re-use of existing infrastructure.

8.2.2 Continuation of STP1 Scenario

The 'Continuation of STP1 Scenario' performed well against the ISA2 Objectives, with a slight, moderate or largely beneficial impact against eight objectives. However, due relatively less focus on sustainability and supporting a socially inclusive transport network, the performance against the other ISA2 Objectives is anticipated to be neutral or uncertain.

This scenario performed strongly against ISA2 Objective 13 which relates to strategic transport planning across the region. The aims of STP1 of connecting businesses and people are supported by the policy position which seeks to ensure that future strategic housing, commercial and industrial developments are well connected, and have high expectations on developers to provide access to

public transport facilities; this could therefore result in a large beneficial impact on strategic transport planning across the region.

The Continuation of STP1 Scenario scored the lowest against ISA2 Objective 3 (Biodiversity). It is considered that the objective of STP1 to promote and enhance the natural environment could have a moderate beneficial impact on protecting and enhancing biodiversity, particularly as policy seeks to ensure that biodiversity net gain is achieved where possible. However, the wording to achieve BNG ‘*where possible*’ in this scenario would not align with the upcoming national requirement for 10% biodiversity net gain on all developments set out in the Environment Act 2021. Therefore, this scenario has been scored as having a slight adverse impact due to the impact on BNG in the long term.

Enhancement and Mitigation

The Continuation of STP1 Scenario could have a stronger focus on sustainability and social inclusion. In particular, policy on BNG could be stronger to ensure net gain is achieved on all developments and explicit reference could be made to improving local air quality. This scenario could also focus on enhancing access to transport for all, particularly in relation to reducing severance and supporting people in areas at high risk of TRSE.

8.2.3 Local Modal Shift Max Scenario

The Local Modal Shift Max Scenario scored similarly to the Continuation of STP1 Scenario, albeit with strengths in different areas. In this scenario, the ambition to focus on local investment could result in an adverse impact on enhancing sustainable connectivity at a regional and national scale.

The Local Modal Shift Max Scenario scored well in relation to: ISA2 Objective 1 relating to reducing greenhouse gas emissions; Objective 5 relating to improving local air quality; Objective 15b reducing transport related vibration, noise and air pollution; and Objective 16a relating to improving road safety, as a result of its target for a 20% absolute reduction in road mileage within the North as a whole, which could result in a reduction in private vehicle use, improving both road safety and reducing road mileage related pollution.

This scenario performed negatively against ISA2 Objective 12 which relates to enhancing long term economic prosperity and promoting a clean green economic transformation. This scenario would predominantly leave investment in electric vehicle transition and alternative fuels to private investment which could have a moderate adverse impact on potential economic outcomes of decarbonising transport.

Enhancement and Mitigation

Within the Local Modal Shift Max Scenario, it could encourage strategic transport planning across the region and make explicit reference to helping reduce disparities between the northern economy and the rest of England, particularly supporting economic activities through green economic transformation.

8.2.4 Summary

Across all three scenarios, it will be key to ensure any adverse effects are reduced and beneficial effects are enhanced as appropriate through the carefully considered and identified mitigation measures.

It should be noted that the Local Mode Shift Max scenario wording has not been developed to the same level of detail as the Balanced (STP2) and the Continuation of STP1 scenarios. All three alternatives have been assessed utilising the same methodology as the STP2 policies for consistency and transparency. However, it is important to recognise that if this scenario was to be developed further to the same level of detail as the Balanced (STP2) and Continuation of STP1 scenarios, the scores would likely positively increase with the greater clarity and detail.

It is not the purpose of the ISA2 to decide which alternative scenario should be pursued. This is the responsibility of the decision makers who will consider the preferred, most appropriate strategy to be taken forward. The ISA2 provides an assessment of the performance of each strategic alternative against the ISA2 framework and helps to enhance the transparency of the decision-making process, as part of the development of the STP2.

9. Assessment of the Strategic Transport Plan 2

This section summarises each of the three stages of assessment that was undertaken as part of ISA2 as the STP2 was developed. Each assessment stage outlines the policies that were assessed with the associated mitigation and enhancement measures given to strengthen the plan, showcasing the iterative nature of the ISA2 supporting the development of the STP2. Each stage is split by date, providing a comprehensive overview, with the final assessment in March 2023 of the consultation version of STP2, being explored in greater detail. Assessment tables of each assessment stage have been provided in Appendix D for further information.

9.1 November 2022

9.1.1 Policy and Place Framework

Within the first iteration of STP2, Arup received from TfN the draft Policy and Places Framework on the 4th November 2022. It was acknowledged that the Policies and Place Framework would only form part of the STP2 policies, so the first assessment was based on only the policies in the Policy and Place Framework, rather than the STP2 plan as a whole.

The first assessment assessed the Policies and Place Framework, which comprised 9 place-based policies, against the ISA2 framework objectives.

- Commuter Towns
- Large Conurbations
- Rural Villages and Dispersed
- Rural Town and Fringe
- Transformation Places
- Other Urban
- Visitor Destinations
- Former Metropolitan Counties
- Industrial Places

The assessment findings identified a number of strengths within the policies, specifically in terms of reducing greenhouse gas emissions, minimising embedded emissions, protecting local air quality, increasing resilience of the transport network, enhancing long term economic prosperity, supporting the coordination of strategic transport and land use planning and promoting inclusive environments. The assessments findings also identified areas of uncertainty in terms of conserving and enhancing historic assets, landscapes and townscapes and promoting the prudent use of natural resources.

The assessment recommended mitigation and enhancements against each of the ISA2 framework objectives, where it was considered necessary, to help improve the STP2. However, it was acknowledged that the mitigation given to enhance these policies may be included within the

remaining policies in the draft STP2 which we had not yet received, or therefore assessed. The full assessment tables can be found in Appendix D.

9.2 January 2023

9.2.1 Thematic Policies

Arup received a draft STP2 plan from TfN which included thematic policies, which had not previously been assessed, and an amended Policy and Places Framework. For the purposes of ISA2, these have been termed ‘Thematic Policies’. It was considered that this draft included all the proposed policies for the STP2, allowing us to do a full assessment of the plan, as opposed to a partial assessment completed in November 2022.

The second assessment assessed the 13 thematic policies included in the draft STP2, which comprised:

- Rail
- Road
- Freight and Logistics
- International Connectivity
- Local Connectivity
- Rural Mobility
- Achieving more Sustainable Travel
- Active Travel
- Electric Vehicle Charging Infrastructure
- Multi-modal Hubs
- Connected Mobility
- Decarbonisation
- Transport Relation Social Exclusion

The assessment findings identified a number of strengths within the thematic policies, specifically in terms of reducing greenhouse gas emissions, minimising embedded emissions, protecting local air quality, increasing resilience of the transport network, enhancing long term economic prosperity, supporting the coordination of strategic transport and land use planning and promoting inclusive and safe environments. The assessments findings also identified areas of uncertainty in terms of avoiding land contamination and conserving soil, conserving and enhancing historic assets, landscapes and townscapes and enhancing blue infrastructure networks.

The assessment recommended mitigation and enhancements against each of the ISA2 framework objectives, where it was considered necessary, to help improve the STP2. The full assessment tables can be found in Appendix D.

9.2.2 Policy and Place Framework

Arup received a draft STP2 plan from TfN included amended Policy and Places Framework. This comprised of the same 9 place-based policies, against the ISA2 framework objectives.

- Commuter Towns
- Large Conurbations
- Rural Villages and Dispersed
- Rural Town and Fringe
- Transformation Places
- Other Urban
- Visitor Destinations
- Former Metropolitan Counties
- Industrial Places

However, the draft STP2 now only included the policy titles and descriptions for the Policy and Places Framework, with specific policy text moved to an appendix. Arup advised that appendices do not form part of the Plan and therefore, any additional policy information in an appendix would not be assessed as part of the ISA2. The second assessment therefore only assessed the policy headings included in the main plan and as a result the policies scored lower against the ISA2 framework objectives.

The assessment findings continued to identify a number of strengths within the policies, specifically in terms of reducing greenhouse gas emissions, minimising embedded emissions, protecting local air quality, increasing resilience of the transport network, enhancing long term economic prosperity, support the coordination of strategic transport and land use planning and promoting inclusive and safe environments. However, areas of uncertainty found from the assessment included of conserving and enhancing historic assets, landscapes and townscapes and conserving soil and land remediation. The assessment recommended mitigation and enhancements against each of the ISA2 framework objectives, where it was considered necessary, to help improve the STP2. The full assessment tables can be found in Appendix D.

9.3 March 2023

9.3.1 Thematic Policies

The consultation version of the STP2 includes a section outlining ‘*Our Strategy for the North’s Transport System*’ set out between pages 29-41, focusing on different policy aspects. For the purposes of ISA2, these have been termed ‘Thematic Policies’. The Thematic Policies support the overarching STP2 Objectives, with the overall aim of setting out how the STP2 will unlock social, economic and environmental opportunities through delivering a sustainable, interconnected transport system in the North. The Thematic Policies are defined as follows:

- **Our strategy for Rail** – The North requires a fit-for-purpose network with strong North–South and East–West connections acting as the backbone of a high-quality, reliable, resilient, and equitable passenger network, capable of supporting the future growth of rail patronage, but which also provides the critical capacity and capability to adapt to modern freight requirements.
- **Investing in our Road Network** – To achieve our 2050 vision, we need TfN’s MRN to act as a seamless network of roads, enabling safe, reliable, and resilient multimodal journeys. We want better outcomes for communities living alongside major roads, biodiversity gains and faster action towards achieving a fair transition to near net zero for transport.
- **Freight and International Connectivity** – To maximise the impacts of our freight and logistics sector in delivering sustainable economic growth we require an efficient and integrated multimodal freight network, directly linked to our ports, international gateways and well-connected warehousing and consolidation sites. We also need investment in rail freight, both capacity and capability, which will support economic growth, create capacity on routes to ports and strategic rail freight interchanges and remove HGVs from our region’s roads.
- **Local Connectivity** – The way in which people and freight move around a localised area across all modes of transport. Local connectivity includes bus, light rail, and active travel modes, integrated via multi-modal hubs and connected mobility (smart travel) technology, designed to deliver sustainable and integrated door-to-door journeys to match user needs.

The other 9 thematic policies from January 2023 had been removed from the Plan could therefore not be assessed as they no longer formed part of the plan. A summary of the assessment findings is presented below. The full assessment tables can be found in Appendix D.

Summary of assessment findings

A summary of the assessment scores for each ISA2 Framework Objective and each Thematic Policy is provided in Table 10 below. The assessment findings continued to identify a number of strengths in the Thematic Policies when assessed against the ISA2 Framework Objectives. In particular the policies scored well in terms of reducing greenhouse gas emissions and protecting local air quality; enhancing long term economic prosperity; and promoting inclusive and safe environments for all which support the three overarching ambitions of STP2.

The assessments findings also identify areas of uncertainty across the Thematic Policies across protecting and enhancing the blue infrastructure network, avoiding land contamination, and

conserving and enhancing historic assets, landscapes and townscapes. Therefore, the STP2 could potentially result in transport infrastructure interventions which may have implications on the local environment and surrounding landscapes. However, we note the holistic nature of the STP2 and the comprehensive nature of the proposed delivery of the plan as outlined in the other sections of the STP2, specifically the Action and Impact Framework, outside of these assessed policies.

Mitigation and enhancement recommendations have been given as part of the assessment process, explored in section 10, which outlines opportunities to further strengthen the plan and future projects in the plan area and therefore the STP2 as a whole. It should be noted that a number of the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level, which would be undertaken by delivery authorities. For this reason, they are not considered appropriate or proportionate to be included within the STP2. Therefore, whilst TfN would not have direct responsibility over these measures, TfN would work with and influence the delivery authorities to minimise the adverse environmental and social impacts, as outlined within the Action and Impact Framework.

Consequently, when the plan is read as a whole, the STP2 provides a firm basis for future transport planning for the North. The following section summarised the findings of the Thematic Policies against each ISA2 Framework Objective in turn.

Table 10: Summary of assessment scores for the STP2 Thematic Policies

Thematic Policies	ISA2 Framework Objectives																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14a	14b	14c	15a	15b	16a	16b
Rail	+++	+/?	+/?	+/?	+++	+	0/?	0/?	0/?	+	++	++	++	+++	+++	+++	++	+++	++	+++
Roads	+++	++	++	0	++	+++	+	0/?	0/?	+	+	++	++	++	+	++	++	++	++	+
Freight and International Connectivity	++	++	+/?	+/?	+++	++	0/?	0/?	0/?	+	++	++	++	++	++	++	++	++	++	++
Local Connectivity	++	++	+	?	+	+	0	0	0	+	+	++	++	++	++	++	++	++	++	+

Key

Assessment Scale	Assessment Category	
+++	Large beneficial	
++	Moderate beneficial	
+	Slight beneficial	
0	Neutral or no obvious effect	
-	Slight adverse	
--	Moderate adverse	
---	Strong adverse	
?	Effect uncertain	
+/-	Combination of slight beneficial and adverse effects	
++	--	Combination of moderate beneficial and adverse effects

ISA2 Framework Objectives

1. Reduce greenhouse gas emissions from surface transport in the North.
2. Minimise embedded emissions from the development of new transport infrastructure and the maintenance of existing infrastructure.
3. Protect and enhance the biodiversity, geodiversity and the green infrastructure network.
4. Conserve and enhance internationally designated environment sites.
5. Protect and enhance local air quality.
6. Increase resilience of the transport network to extreme weather events and a changing climate.
7. Protect and enhance the blue infrastructure network including inland and coastal water environments.
8. Protect and conserve soil and remediate and avoid land contamination.
9. Support the conservation and enhancement of the quality and distinctiveness of historic assets, industrial and cultural heritage and their settings.
10. Protect and enhance the character and quality of landscapes and townscape.
11. Promote the prudent use of natural resources, minimise the production of waste and support the re-use and recycling of materials.
12. Enhance long term economic prosperity and promote a clean and green economic transformation.
13. Coordinate land use and strategic transport planning across the region.
14. Promote greater equality of opportunity for all citizens, and reduce Transport Related Social Exclusion (TRSE), particularly for the North’s most vulnerable groups.
15. Improve the health and wellbeing for all citizens and reduce inequalities in health.
16. Promote community safety and reduce crime and the fear of crime for all citizens.

ISA2 Framework Objective 1

The Thematic Policies scored strongly against ISA2 Objective 1 due to their focus on decarbonising the transport system by providing more sustainable travel choices and promoting greater carbon efficiency in the movement of people and goods. In particular the Road and Rail Thematic Policies score strongly against this objective by encouraging a modal shift away from private vehicle mileage and encouraging the greater integration of public transport services across the region. These policy interventions could lead to a reduction in polluting vehicles on the roads and a more efficient and effective rail network, therefore resulting in a reduction in greenhouse gas emissions from surface transport.

ISA2 Framework Objective 2

The focus on decarbonisation also resulted in the Thematic policies scoring well against ISA2 Objective 2 due to the impact it could have on minimising embedded emissions from the development of new or existing transport infrastructure. In particular, the Freight and International Connectivity policy focuses on upgrading existing transport infrastructure, such as electrification of the rail network of utilising inland waterways to support decarbonisation. All four Thematic Policies could be strengthened by including the use of low carbon construction materials and techniques. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, minimising the impacts from embedded carbon is encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 3

The Road policy scored well against ISA2 Framework Objective 3 due to its clear ambition to deliver net gains in biodiversity around heavily trafficked major roads. However, due to a lack of explicit reference to biodiversity, the other Thematic Policies were considered to have a slight beneficial and uncertain impact on biodiversity and the green infrastructure network. The assessment recommended that policies could make reference to green infrastructure, promoting good design to maximise ecological connectivity and to secure Biodiversity Net Gain. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, enhancing biodiversity is encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 4

In relation to conserving and enhancing internationally designated environment sites, the policies scored neutral or uncertain against this framework objective. At this stage of the plan development, it is not possible to ascertain the potential effects on these sites; therefore, anticipated effects on these sites across all thematic policies is uncertain. Therefore, this would be addressed at the appropriate design and project level by delivery partners.

ISA2 Framework Objective 5

The Thematic Policies scored strongly against ISA2 Framework Objective 5 due to the focus on reducing car dependency and improving the integration of the public and active travel networks to enable a modal shift. The policies also make explicit reference to reducing the pollution caused by transport activities and meeting net zero carbon targets which could have a strong influence of protecting and enhancing local air quality.

ISA2 Framework Objective 6

In terms of increasing the resilience of the transport network to a changing climate, the Thematic Policies scored well. The Road policy scored particularly well due to its explicit reference to ensuring that the road network is resilient and adaptive to meet severe weather events and improving network resilience. Nonetheless, the assessment recommended that the remaining policies also make this explicit reference in order to more strongly align with this ISA2 Framework Objective.

ISA2 Framework Objective 7

As mentioned above, the Thematic Policies scored largely uncertain and/or neutral against ISA2 Framework Objective 7 due to a lack of reference to protecting and enhancing the blue infrastructure network. The assessment recommended that policy could make reference to reducing pollution from the transportation network to benefit the natural environment. However, the specific nature of this would be addressed at the appropriate design and project level by delivery partners.

ISA2 Framework Objective 8

The Thematic Policies also scored largely uncertain and/or neutral against ISA2 Framework Objective 7 due to a lack of reference to remediating and avoiding land contamination. The assessment therefore recommended that policy could make an explicit reference to supporting the conservation and remediation of land utilised as part of the transport infrastructure network. However, the specific nature of this would be addressed at the appropriate design and project level by delivery partners.

ISA2 Framework Objective 9

Historic assets and industrial and cultural heritage often form part of the transport infrastructure network or can be impacted by its activities. However, the Thematic Policies do not focus on supporting its conservation or enhancement, resulting in neutral and/or uncertain impacts. The assessment therefore recommended that policy could make reference to supporting the conservation and enhancement of the historic environment which forms part of the transport infrastructure network. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, heritage conservation and enhancement is encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 10

All four of the Thematic Policies were found to have a slight beneficial impact on protecting and enhancing the character and quality of landscapes and townscapes due to the focus on reducing the dominance of cars on the roads. The policies could be strengthened by encouraging design of transport infrastructure that protects and enhances the character of surrounding areas, as recommended in the assessment. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, landscape and townscape enhancement is encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 11

The policies scored well against ISA2 Framework Objective 11 due to the focus on encouraging more sustainable modes of travel which could support a reduction in fuel use. However, as recommended in the assessment, the policies could be strengthened by making reference to encouraging the more prudent use of natural resources, including a reduction in fuel use, the use of recycled and locally produced materials and resource efficient transport infrastructure both in construction and operation. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, resource efficiency is encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 12

In terms of enhancing long term economic prosperity, the Thematic Policies scored well against the ISA2 Framework Objectives due to the focus on greater integration of public transport which could support greater use of sustainable transport modes to access employment and skills opportunities.

ISA2 Framework Objective 13

The Thematic Policies scored well in terms of supporting strategic transport planning across the region through their ambition to better integrated economic assets and connecting communities. In particular, the Road policies makes reference to working with relevant bodies to ensure strategic transport planning across the region. The assessment recommended that policies could include a reference to connecting communities and supporting housing and employment development in areas served by public or active transport modes in order to strengthen the policies. However, the specific nature of this would be addressed at the appropriate design and project level by delivery partners.

ISA2 Framework Objective 14

The policies scored strongly against ISA2 Framework Objective 14 due to their focus on supporting communities, affordability and accessibility, which could contribute to reducing TRSE.

ISA2 Framework Objective 15

In terms of improving the health and wellbeing for all citizens and reducing inequalities in health, the Thematic Policies scored well due to their focus on connecting communities and better integrating public transport services to improve accessibility to essential services.

ISA2 Framework Objective 16

The Thematic Policies scored well in terms of improving safety, largely due to encouraging a reduction in private vehicles on the road network. The assessment recommended that the policies could include references to ensuring safety to create a welcoming environment for travel for all users to improve the strength of the policies. However, the specific nature of this would be addressed at the appropriate design and project level by delivery partners.

9.3.2 Policy and Place Framework

As part of the *'Our Strategy for the North's Transport System'* outlined above, the STP2 also included a section on their *'Place Based Approach'* to strategic transport planning. The Place Based Approach recognised that the policy priorities for a rural and dispersed area will be significantly different from a large conurbation and that not just TfN but also their partners, through their own LTPs, must represent a multitude of places with different transport challenges.

The Place Based Approach is supported by the Policy and Places Framework, included in Annex 2 of the STP2, which identifies nine distinct place types that can be used by local transport authority partners as evidence to inform their own Local Transport Plan process. The draft STP2 signposts the Policy and Places Framework within the Place Based Approach section, stating:

“Our policy and place framework [in Annex 2] uses TfN’s extensive evidence base and expertise to identify what policies might best support different types of places in the North to achieve our collective vision and objectives and ensure that pan-Northern connectivity and local transport systems can be designed in a complementary way to maximise the benefits to passengers.”

The place types are defined as follows:

- **Commuter Towns** – typically smaller towns and suburbs which neighbour Large Conurbations, with strong economic and commuting linkages to these large cities.
- **Large Conurbations** - places of great variation which contain 51% of the North’s population, and often face challenges around deprivation and poverty. They benefit significantly from economic agglomeration and generate greater productivity than the Northern average.
- **Rural Villages & Dispersed** – rural districts geographically isolated from cities and towns.
- **Rural Town and Fringe** – rural areas (outside of a town with a population of less than 10,000 people) that are within closer proximity to nearby towns and cities.
- **Transformational Places** – dynamic and successful local economies, with productivity and employment growth above the national average, but also in some instances face a variety of economic and transport constraints, and market failures.
- **Other Urban** – more geographically focussed version of Towns within Metropolitan Counties, with a similar employment breakdown, but are more geographically isolated and further from the Larger Conurbations.
- **Visitor Destinations** – rural destinations and towns that attract large numbers of seasonal tourists each year.
- **Towns within Metropolitan Counties** – share characteristics with Large Conurbations and Industrial Places, reflected in their geographic distribution. They are prominent around Leeds, Manchester, and Sheffield, where they can be found intermingled with Industrial Places and adjacent to large Conurbations, and surrounding Liverpool and Newcastle upon Tyne.

- **Industrial Places** – areas where employment is focused around ‘traditional’ industries, with typically lower levels of productivity and higher levels of economic inactivity and unemployment.

In previous assessment rounds, appendices were excluded from the ISA2 assessments however in this final policy assessment, the Policy and Place Framework within Annex 2 was assessed. This was undertaken due to the significant contribution the Policy and Places Framework is considered to have on the implementation of STP2 and the Framework being considered as ‘policy’ which would be used specifically to guide development of the North’s transport network. A summary of the assessment findings is presented below. The full assessment tables can be found in Appendix D.

Summary of assessment findings

A summary of the assessment scores for each ISA2 Framework Objective and each Policy and Place Framework policy is provided in Table 11 below. The full assessment summary tables can be found in Appendix D.

The assessment findings continued to identify a number of strengths in the Policy and Places Framework when assessed against the ISA2 Framework Objectives. In particular, as with the Thematic Policies summarised above, the policies scored well in terms of reducing greenhouse gas emissions and protecting local air quality; enhancing long term economic prosperity; and promoting inclusive and safe environments for all which support the three overarching ambitions of STP2. Following changes made based on our recommendations from the initial assessment of the STP2, the Policy and Places Framework also scores strongly against protecting and enhancing blue and green infrastructure, conserving and enhancing historic assets, landscapes and townscapes.

The assessment findings also identify areas of uncertainty or only slightly beneficial impacts across the Policy and Places Framework, in particular relating to avoiding land contamination and promoting the prudent use of natural resources. Therefore, the STP2 could potentially result in transport infrastructure interventions which may have implications on the local environment and surrounding landscapes. However, we note the holistic nature of the STP2 and the comprehensive nature of the proposed delivery of the plan as outlined in the other sections of the STP2, specifically the Action and Impact Framework, outside of these assessed policies.

The Policy and Places Framework relates to distinct place types, therefore whilst certain policies were not scored strongly it was not considered proportionate to amend the policy wording where it had instead been addressed elsewhere within the STP2. It should also be noted that a number of the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level and led by delivery authorities. For this reason, they are not

considered appropriate or proportionate to be included within the STP2. Therefore, whilst TfN would not have direct responsibility over these measures, TfN would work with and influence the delivery authorities to minimise the adverse environmental and social impacts, as outlined within the Action and Impact Framework. When the plan is read as a whole, the STP2 provides a firm basis for future transport planning for the North.

The following section summarises the findings of the Policy and Places Framework against each ISA2 Framework Objective in turn.

Table 11: Summary of assessment scores for the STP2 Policy and Place Framework

Policy and Place Framework	ISA2 Framework Objectives																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14a	14b	14c	15a	15b	16a	16b
Commuter Towns	+++	++	++	+	++	++	++	0/?	+/?	+	+	++	++	++	+++	++	++	+	+	+
Large Conurbations	+++	++	++	++	+++	+++	++	0/?	+++	+++	+	+++	+++	+++	+++	+++	+++	+++	++	++
Rural Villages & Dispersed	+++	++	+/?	+	++	+	0	0/?	+	+	+	++	++	++	+++	++	++	++	++	++
Rural Town and Fringe	+++	++	++	+	+++	++	++	0/?	++	++	+	++	++	++	++	++	++	++	++	++
Transformational Places	+++	++	+	+	+++	++	0/?	+/?	0/?	+	+	+++	++	++	++	++	+	+++	++	0/?
Other Urban	++	++	++	++	+++	++	++	+	+++	+++	+	++	++	++	++	++	++	++	++	++
Visitor Destinations	+++	+	++	++	+++	++	+	0/?	++	++	+/?	++	++	++	++	++	++	++	++	++
Former Metropolitan Counties	+++	+	+	+	+++	+	0/?	0/?	+/?	+/?	+/?	+++	++	++	+	++	++	+	++	++
Industrial Places	+++	++	++	+	++	++	++	0/?	+++	+	+	+++	+++	++	+	++	++	+	++	+

Key

Assessment Scale	Assessment Category
+++	Large beneficial
++	Moderate beneficial
+	Slight beneficial
0	Neutral or no obvious effect
-	Slight adverse
--	Moderate adverse
---	Strong adverse
?	Effect uncertain
+/-	Combination of slight beneficial and adverse effects
++ --	Combination of moderate beneficial and adverse effects

ISA2 Framework Objectives

1. Reduce greenhouse gas emissions from surface transport in the North.
2. Minimise embedded emissions from the development of new transport infrastructure and the maintenance of existing infrastructure.
3. Protect and enhance the biodiversity, geodiversity and the green infrastructure network.
4. Conserve and enhance internationally designated environment sites.
5. Protect and enhance local air quality.
6. Increase resilience of the transport network to extreme weather events and a changing climate.
7. Protect and enhance the blue infrastructure network including inland and coastal water environments.
8. Protect and conserve soil and remediate and avoid land contamination.
9. Support the conservation and enhancement of the quality and distinctiveness of historic assets, industrial and cultural heritage and their settings.
10. Protect and enhance the character and quality of landscapes and townscapes.
11. Promote the prudent use of natural resources, minimise the production of waste and support the re-use and recycling of materials.
12. Enhance long term economic prosperity and promote a clean and green economic transformation.
13. Coordinate land use and strategic transport planning across the region.
14. Promote greater equality of opportunity for all citizens, and reduce Transport Related Social Exclusion (TRSE), particularly for the North's most vulnerable groups.
15. Improve the health and wellbeing for all citizens and reduce inequalities in health.
16. Promote community safety and reduce crime and the fear of crime for all citizens.

ISA2 Framework Objective 1

The Policy and Places Framework scored strongly against ISA2 Framework Objective 1. Each place type has a strong focus on reducing private vehicle mileage and a modal shift towards active and public travel, albeit at different scales. There is a focus on promoting zero emissions vehicles for first and last mile deliveries, EV Charging Infrastructure and Demand Responsive Travel. Such policy interventions could all contribute to reducing greenhouse gas emissions from surface transport in the North resulting in a strong score against this objective.

ISA2 Framework Objective 2

The Policy and Places Framework scored well against ISA2 Framework Objective 2 due to a focus on upgrading and maintaining existing infrastructure and implementing sustainable charging and refuelling infrastructure which could support a reduction in embedded construction carbon. The assessment recommended that policies could make reference to low carbon construction techniques for the implementation of new infrastructure; this recommendation is relevant to all place types. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, minimising the impacts of embedded emissions is encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 3

In terms of protecting and enhancing biodiversity, the Policy and Places Framework scored well overall. Following proposed mitigation recommended during the initial assessment of the STP2, wording was added to explore the potential for developing new green and blue infrastructure and enhancing biodiversity, improving the score against a number of place types. For Rural Villages, Transformation Places and Towns with Metropolitan Counties were considered to only have a slight beneficial impact against this objective; the assessment therefore recommended that policies could make reference to promoting good design in relation to major transport infrastructure, to maximise ecological connectivity and ensure overall biodiversity net gain. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, enhancing biodiversity is encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 4

The place types largely had a slight beneficial impact for conserving and enhancing internationally designated environment sites. The assessments therefore recommended that policy could make reference to conserving and enhancing environment sites as part of strengthening the public transportation and active travel network. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level, and not considered appropriate or proportional to be included within the STP2, which would be led and delivered by the delivery authority.

ISA2 Framework Objective 5

The Policy and Places Framework scored strongly against ISA2 Framework Objective 5 due to the focus on reducing congestion and traffic levels and improving public and active travel infrastructure to enable a modal shift and reduce emissions of air pollutants.

ISA2 Framework Objective 6

In terms of increasing the resilience of the transport network to a change climate, the Policy and Places Framework scored well due to a focus on strengthening connectivity between residential areas and essential services by increasing transport options. The policies individually do not explicitly refer to encouraging adaptive management and design to respond to changing climatic effects or promoting resilience through nature-based solutions. However, when the plan is read as a whole, the previously raised mitigation and enhancement recommendations from the 2022 assessment have been addressed through amendments to the final iteration of the STP2, the Policy and Places Framework and within the relevant thematic policies. Therefore, it is not considered to be proportionate to amend the wording within these policies.

ISA2 Framework Objective 7

The Rural Villages, Transformation Places and Towns with Metropolitan Counties Policies scored largely uncertain and/or neutral against ISA2 Framework Objective 7 due to a lack of reference to protecting and enhancing the blue infrastructure network. However, other place types scored well against this objective with amended wording following the initial assessment of STP2. The assessment recommended that policy could make reference to reducing pollution from the transportation network to benefit the natural environment. However, the specific nature of this would be addressed at the appropriate design and project level by delivery partners.

ISA2 Framework Objective 8

The policies did not include extensive references to protecting soil and avoiding land contamination. The assessment recommended that policies could be strengthened by including references to supporting the prevent of disturbance, harm, contamination or permanent loss of agricultural soils. However, the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level, which would be led and delivered by the delivery authority. For this reason, they are not considered appropriate or proportionate to be included within the STP2.

ISA2 Framework Objective 9

The Policy and Places Framework had a range of scores against ISA2 Framework Objective 9. Large Conurbations, Other Urban and Industrial Places scored strongly against this objective due to added wording following recommendations from the initial assessment of STP2 encouraging the protection, enhancement and improved access to historic assets which form part of the transport infrastructure network. Such wording was not added against all the nine place types, resulting in lower scores for such policies. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, heritage conservation and enhancement is encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 10

The Policy and Places Framework also had a range of scores against ISA2 Framework Objective 10. Large Conurbations and Other Urban scored strongly due to added wording following recommendations from the initial assessment of STP2 encouraging the protection and enhancement of townscapes. The remaining place types were considered to have slight or moderate beneficial impact due to a reduction of private vehicles on the road network. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, enhancing landscape and townscapes are encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 11

The nine place types were considered to only have a slight beneficial impact when scored against ISA2 Framework Objective 11. This was due to the focus on encouraging more sustainable modes of travel which could support a reduction in fuel use. As recommended in the assessment, the policies could be strengthened by making reference to the public infrastructure network being resource efficient in construction and operation, and utilising resources effectively (for example recycled materials where possible). However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, resource efficiency is encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 12

The Policy and Places Framework performed strongly against ISA2 Framework Objective 12. The policies for each place type encouraged more sustainable connectivity, including more sustainable to access to employment opportunities. By supporting the delivery of a significant shift in the movement of people and goods across places through the delivery of an effective and efficient multi-modal transport hub network, this could result in the optimisation of stronger economic outcomes for the north with improved availability, accessibility and economic activities across the region.

ISA2 Framework Objective 13

In terms of strategic transport planning across the region, Large Conurbations and Industrial Places performed strongly; Large Conurbations have a focus on spatial and transport planning working symbiotically together, enabling accessible, sustainable and inclusive growth across the north and Industrial Places focuses on creating a 15/20-minute neighbourhood through investing in housing and office developments with active travel facilities. The remaining place types also perform well against this objective but could strengthen references to coordinating the public infrastructure network with the future development of employment and housing within 15/20-minute neighbourhoods to enable coordinated strategic planning across the plan area. However, the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level, and not considered appropriate or proportional to be included within the STP2, which would be led and delivered by the delivery authority.

ISA2 Framework Objective 14

The nine place types perform well against ISA2 Framework Objective 14 due to their focus on accessibility to services, affordability and severance. In particular Commuter Towns, Large Conurbations and Rural Villages performed strongly due to their focus on ensuring affordable fares which are equitable and cost effective in comparison to private vehicles. This could have been strengthened in Towns with Metropolitan Counties and Industrial Places with the assessment recommending that the policies could make a greater reference to the need for public transportation to be financially accessible for all users.

ISA2 Framework Objective 15

The Policy and Places Framework performed well against ISA2 Framework Objective 15 due to the focus on improving accessibility and connectivity to essential service through better integrated multi-modal hubs. The assessment recommended that Commuter Towns, Towns with Metropolitan Counties and Industrial Places could make reference to reduce the impact of vibration, air and noise pollution, in particular on vulnerable users, due to the increased use of public transport. However, it should also be noted that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level which would be led and delivered by the delivery authority. Similarly, when the STP2 is read as a whole, reducing the impact from transport infrastructure on communities is encouraged. Therefore, it was not considered appropriate or proportional to be include amended wording within these policies.

ISA2 Framework Objective 16

The Policy and Place Framework scored well against ISA2 Framework Objective 16 due to the policies supporting a reduction in the dominance of cars on the roads, which could lead to a reduction in accidents, including wildlife collisions. The policies also focus on reallocating road space and improving the public realm and active travel infrastructure which could further improve road safety. However, the assessment recommended that policies could make stronger references to safety improvements in relation to multi-modal hubs, including natural surveillance, and creating a more welcoming environment for travel and accessing key facilities. However, the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level, and not considered appropriate or proportional to be included within the STP2, which would be led and delivered by the delivery authority.

10. Cumulative, Synergistic and Indirect Effects

The Strategic Environmental Assessment (SEA) Directive (2005) outlines a requirement to consider cumulative, synergistic and indirect effects from the implementation of the STP2. The directive defines these effects as follows:

- **Secondary or indirect effects** are effects that are not a direct result of the plan but occur away from the original effect or as a result of a complex pathway. Examples of secondary effects are a development that changes a water table and thus affects the ecology of a nearby wetland; and construction of one project that facilitates or attracts other developments.
- **Cumulative** effects arise, for instance, where several developments each have insignificant effects but together have a significant effect; or where several individual effects of the plan (e.g. noise, dust and visual) have a combined effect.
- **Synergistic** effects interact to produce a total effect greater than the sum of the individual effects. Synergistic effects often happen as habitats, resources or human communities get close to capacity. For instance, a wildlife habitat can become progressively fragmented with limited effects on a particular species until the last fragmentation makes the areas too small to support the species at all.

The ISA2 has therefore considered cumulative, synergistic and indirect effects as required by the SEA Directive. The identification of these likely effects and potential affected receptors already takes into account the fact that TfN have taken on board earlier recommendations to improve the sustainability performance of the STP2. Table 12 outlines the results of this analysis.

Table 12: Anticipated cumulative, synergistic and indirect effects

Effects	Causes	Affected Receptor	Significance
Greenhouse gas emissions	It is considered that the STP2 will help to result in a fall in GHG emissions due to the decarbonisation of the transport network and delivery of better integrated public and active travel modes, as well as the	Population Wildlife habitats Transport Infrastructure	Climate change is a global phenomenon meaning that greenhouse gas concentrations in the atmosphere are likely to increase during the STP2 period as a

Effects	Causes	Affected Receptor	Significance
	development and increased use of sustainable modes of transport. Uptake of electric and zero-emission vehicles is also anticipated to bring major benefits.		result of human activities on a global scale. Anticipated medium to long term benefits as interventions are developed and uptake of low and zero emission vehicles develops.
Biodiversity	It is considered that the STP2 and interventions derived from it will result in a mix of cumulative positive and negative effects on biodiversity.	Wildlife habitats Flora and Fauna Landscapes and Townscapes	The use of land for new infrastructure, including for example transport infrastructure, commercial uses and housing could result in habitat degradation, loss or fragmentation. However, positive effects are anticipated following the introduction of the Environment Act (2021) with the 10% BNG requirement and Local Nature Recovery Strategies.
Sites designated for nature conservation	It is considered that the STP2 and interventions derived from it could result in a mix of cumulative positive and negative effects on sites designated for nature	Wildlife habitats Flora and Fauna Landscapes and Townscapes	Potential for effects on sites designated for nature conservation – requirement for Habitats Regulation Assessment to be

Effects	Causes	Affected Receptor	Significance
	conservation. It is not possible to quantify these at this stage of plan development.		undertaken at the appropriate stage.
Air quality	It is considered that the STP2 will have a cumulative beneficial effect on air quality. This beneficial effect will be derived from the decarbonisation of the transport network and delivery of better integrated public and active travel modes, as well as the development and increased use of sustainable modes of transport. Uptake of electric and zero-emission vehicles is also anticipated to bring major benefits.	Population Wildlife habitats Flora and Fauna	Whilst the STP2 is considered to have a cumulative beneficial effect on air quality, air emissions from the major road network and particularly congested areas remain a concern. Designation of AQMAs indicates that national air quality standards are unlikely to be met in the areas concerned. This affects the health of humans and other species. Anticipated medium to long term benefits as interventions are developed and uptake of low and zero emission vehicles develops.
Blue infrastructure network	It is considered that the STP2 and interventions derived from it could result in a mix of cumulative positive and negative effects on the blue	Population Wildlife Habitats Flora and Fauna	There are anticipated positive and negative effects over the medium to long term

Effects	Causes	Affected Receptor	Significance
	<p>infrastructure network, including inland and coastal water environments. For example, an increase in shipping infrastructure could have a greater impact on coastal surface water and the disturbance of aquatic habitats. On the other hand, a reduction in emissions from road vehicles and public realm improvements could result in reduced pollution benefiting the surrounding blue infrastructure network.</p>		<p>as measures are implemented.</p>
<p>Soil, agricultural resources and contaminated land</p>	<p>It is considered that the STP2 and interventions derived from it could result in a mix of cumulative positive and negative effects on soil, agricultural resources and contaminated land. For example, the development of the highway network provides an opportunity for positive effects relating to contaminated land, but it may also provide an opportunity for further land to become contaminated and could potentially lead to the loss of soil / agricultural resources. Effects will be</p>	<p>Population Wildlife Habitats Flora and Fauna Landscapes and Townscapes Rivers Groundwater</p>	<p>There are anticipated positive and negative effects over the medium to long term as measures are implemented.</p>

Effects	Causes	Affected Receptor	Significance
	experienced across the north of England.		
Historic Assets	It is considered that the STP2 and interventions derived from it will result in a mix of negative and positive effects on historic assets, industrial and cultural heritage and their settings across the north of England. For example, better integrated and more accessible sustainable transport modes could improve access to heritage sites, however changes to transport infrastructure could have potential negative effect on the integrity and setting of heritage assets that form part of the transport network without appropriate mitigation measures.	Landscapes and Townscapes Heritage Assets	The use of land for new infrastructure, including transport infrastructure, commercial uses and housing could result in the disturbance of heritage assets and their settings. Negative effects could also be caused by human activities such as recreation, pollution and noise from transport. Anticipated positive and negative effects over the medium to long term as interventions are implemented.
Landscapes/ townscapes	It is considered that the STP2 and interventions derived from it will result in a mix of negative and positive effects on landscapes and townscapes across the north of England. For example, a reduction in car ownership could lead to a positive effect on townscapes due to reduced congestion, yet the	Landscapes and Townscapes Population Infrastructure Heritage assets Wildlife Habitats Flora and Fauna	The combination of multiple developments could result in the degradation of species and wildlife habitats, landscapes and townscapes, with the potential to cause irreversible harm. Anticipated positive and negative effects

Effects	Causes	Affected Receptor	Significance
	siting and design of new sustainable transport infrastructure could impact on the setting of a landscape or townscape.		over the medium to long term as interventions are implemented.
Economic growth	It is considered that the STP2 and interventions derived from it will act as a key driver to long term economic prosperity and promote a clean and green economic transformation across the north of England.	Population	Changes in access to employment opportunities or a change in shift patterns as a result of new or improved transport infrastructure. Anticipated positive effects over the medium to long term as measures are implemented.
Health and well-being	It is considered that the STP2 and interventions derived from it will act to promote health and well-being through providing greater access to services and employment opportunities, in particular for vulnerable groups and areas at high risk of TRSE.	Population	Changes in access to health and leisure facilities, and a change in local air quality as a result of new or improved transport infrastructure. Anticipated positive effects over the medium to long term as measures are implemented.
Increase in flood risk	It is considered that the STP2 and interventions derived	Population	The use of land for new infrastructure,

Effects	Causes	Affected Receptor	Significance
	<p>from it could result in a mix of cumulative positive and negative effects on flood risk. For example, the development of the highway network provides an opportunity for positive effects relating to flooding, but it may also provide an opportunity for increases in flood risk. Effects will be experienced across the north of England.</p>	<p>Infrastructure Heritage assets Wildlife habitats Flora and Fauna Rivers Groundwater</p>	<p>including transport infrastructure, commercial uses and housing could result in an increase in impermeable surfaces which could increase the risk of flooding. The impact of climate change will also increase the risk of significant flood events. The combination of multiple developments could result in an increased risk of flooding, with the potential to cause irreversible harm. Anticipated positive and negative effects over the medium to long term as interventions are implemented.</p>

11. Mitigation and Enhancement

Mitigation can be defined as any approach that is aimed at preventing, reducing or offsetting any significant adverse environmental effects that have been identified. In practice, a range of measures applying one or more of these approaches is likely to be considered in mitigating any significant adverse effects predicted as a result of implementing the STP2. It is also important to consider measures that enhance positive effects. All measures are generally referred to as mitigation measures.

Mitigation can take a variety of forms, including:

- amending intervention measures in order to improve the likelihood of positive effects and to minimise adverse effects;
- technical measures (such as setting guidelines) to be applied during the implementation phase;
- identifying issues to be addressed in project assessment for certain projects or types of projects;
- proposals for changing other plans and programmes; and
- contingency arrangements for dealing with possible adverse effects.

11.1 Overview of Proposed Enhancements

Mitigation and enhancement measures were recommended where it was considered that the policy wording could be improved in order to both strengthen the policy and perform better against the ISA2 Framework Objectives. The recommended mitigation and enhancement measures against each policy can be found in the assessment tables in Appendices C, D and E. Following the previous rounds of assessments in November 2022 and January 2023, the proposed mitigation measures were largely addressed within the plan policies. Table 13 below therefore provides an overview of the recommended enhancement measures for the STP2 against the ISA2 Framework, that would help to further enhance the positive effects of the STP2.

It should be noted that a number of the recommended enhancement measures would be considered at the design stage or project level which would be led and delivered by the delivery authority. Consequently, the remaining areas of enhancement did not result in direct changes within the STP2 policies as it was not considered proportional or appropriate. Therefore, whilst TfN would not have direct responsibility over these measures, as part of the Action and Impact Framework included within the STP2, a commitment is made for TfN to work with and influence the delivery authorities

to minimise the adverse environmental and social impacts, as well as satisfying national, regional and local planning policy and legislative requirements.

Table 13: Overview of Proposed Enhancements

ISA2 Objective	Proposed Enhancements
<p>1. Reduce greenhouse gas emissions from surface transport in the North.</p>	<p>Due to the potential threats posed by climate change and the Government’s commitment to reduce carbon emissions, measures should be taken to reduce the amount of carbon from the North’s transport system. Reductions would largely come from a reduction in private vehicle mileage and the increased availability, accessibility and affordability of sustainable transport modes which comes across strongly in the STP2. This could be enhanced by prioritising in policy, Climate Change mitigation and adaptation measures in the development of new, or improvements to existing transport infrastructure.</p>
<p>2. Minimise embedded emissions from the development of new transport infrastructure and the maintenance of existing infrastructure.</p>	<p>There should be a consideration of using innovative low carbon construction materials and techniques for the development of new, or improvement of existing, transport infrastructure as well as for maintenance activities. For instance, the road and rail thematic policies could place more emphasis on making better use of existing infrastructure. Carbon footprint can be readily measured at construction and operation by use of an appropriate carbon calculator. The implementation of mitigation measures will be led by delivery authorities.</p>
<p>3. Protect and enhance the biodiversity, geodiversity and the green infrastructure network.</p>	<p>The STP2 promotes good design of transport infrastructure to maximise ecological connectivity and to secure Biodiversity Net Gain. This is particularly important given the Environment Act 2021 which will set in to law a 10% BNG requirement on all new development.</p> <p>More complex measures could be considered such as animal over or under passes on the road network, the development of wildflower meadows along linear features such as roads and railway lines or the active control of invasive species. Particular consideration needs to be made to protection measures in relation to any scheme which may</p>

ISA2 Objective	Proposed Enhancements
	<p>impact directly, or indirectly, on any site designated for nature conservation purposes. The implementation of such mitigation measures will be led by delivery authorities and will be made at the design stage of all relevant schemes.</p>
<p>4. Conserve and enhance internationally designated environment sites.</p>	<p>There could be particular consideration within projects to the conservation and enhancement measures of internationally designated environment sites, particularly those designated as SSSI or Natura 2000. The implementation of such mitigation measures will be led by delivery authorities and will be made at the design stage of all relevant schemes.</p>
<p>5. Protect and enhance local air quality.</p>	<p>None identified.</p>
<p>6. Increase resilience of the transport network to extreme weather events and a changing climate.</p>	<p>It is important to increase our understanding of the transport systems vulnerability to the effects of a changing climate. Particularly as extreme weather events become more regular, there should be consideration in policy to increase the understanding of the transport systems vulnerability to climate change effects, as well as to encourage adaptive management and design to respond to uncertain climatic effects.</p>
<p>7. Protect and enhance the blue infrastructure network including inland and coastal water environments.</p>	<p>Impact on local water resources can be addressed through planning and design for the efficient use of water, including water recycling. Consideration should be given to the use of nature-based solutions to protect the blue infrastructure network, including aquatic habitats.</p> <p>It is particularly important to protect aquatic habitats and coastal surface water as a result of growth in the freight shipments sector. Mitigation and enhancement measures should be considered to protect the natural environment. Protection and good pollution control measures are to be utilised during both construction and operation of transport schemes. The implementation of such mitigation measures will be led by delivery authorities and will be made at the design stage of all relevant schemes.</p>

ISA2 Objective	Proposed Enhancements
<p>8. Protect and conserve soil and remediate and avoid land contamination.</p>	<p>The protection of soil resources, particularly those of higher quality / areas of better agricultural lands should always be considered – this could be done during scheme planning by careful route selection. If areas of good quality soil cannot be avoided, care should be taken during construction to store topsoil for later reuse – either on site as landscaping or further afield.</p> <p>Opportunities should also be taken to utilise areas of previously developed land and to remediate contaminated land when possible. This could include the removal / appropriate treatment of any invasive species such as Japanese Knotweed. The implementation of such mitigation measures will be led by delivery authorities and will be made at the design stage of all relevant schemes.</p>
<p>9. Support the conservation and enhancement of the quality and distinctiveness of historic assets, industrial and cultural heritage and their settings.</p>	<p>Heritage assets may be buildings, monuments, sites, places, areas or landscapes. Consideration should be made of the character and setting of the heritage asset, its significance (and level of protection afforded to it), the potential for loss or harm and need for conservation. Opportunities to support supporting improved access to historic or culturally important sites by sustainable transport modes should be taken when possible.</p> <p>It should also be noted that due to its nature, not all heritage features may be apparent at the planning / design stage and precautions for unexpected discovery should be taken – perhaps through an archaeological watching brief. The implementation of such mitigation measures will be led by delivery authorities and will be made at the design stage of all relevant schemes.</p>
<p>10. Protect and enhance the character and quality of landscapes and townscapes.</p>	<p>The design, construction, repair and maintenance of transport infrastructure should be encouraged to respect and enhance where possible the landscape character and townscapes of the north of England. Reducing the scale of a project or making changes to its operation can help to avoid or mitigate the visual and landscape effects of a proposed project. Consideration during planning should also be given to appropriate siting, design of the scheme (including</p>

ISA2 Objective	Proposed Enhancements
	<p>choice of materials) and landscaping schemes. Policy should therefore consider the design of transport infrastructure that protects and enhances the character of landscapes and townscapes. The implementation of such mitigation measures will be led by delivery authorities and will be made at the design stage of all relevant schemes.</p>
<p>11. Promote the prudent use of natural resources, minimise the production of waste and support the re-use and recycling of materials.</p>	<p>Consideration during design and construction of transport schemes should be given to the waste hierarchy of prevention, reuse, recycling and disposal. All waste should be handled in accordance with applicable waste management legislation and the emphasis should be to minimise the volume of waste produced and the volume sent for disposal, unless it can be demonstrated that this is the best environmental outcome. Consideration should be given to ensuring that new or upgraded infrastructure is resource efficient and encouraging the use of recycled materials, local suppliers and locally produced materials in construction.</p>
<p>12. Enhance long term economic prosperity and promote a clean and green economic transformation.</p>	<p>None identified.</p>
<p>13. Coordinate land use and strategic transport planning across the region.</p>	<p>Consideration should be given to supporting the development of connected communities and coordinating public transport infrastructure with the future development of employment and housing within 15/20-minute neighbourhoods to enable coordinated strategic planning across the plan area. However, all proposed development will require adherence to the relevant planning requirements. As such consideration of these requirements will be made at the design stage of all relevant schemes.</p>
<p>14. Promote greater equality of opportunity for all</p>	<p>None identified.</p>

ISA2 Objective	Proposed Enhancements
<p>citizens, and reduce Transport Related Social Exclusion (TRSE), particularly for the North's most vulnerable groups.</p>	
<p>15. Improve the health and wellbeing for all citizens and reduce inequalities in health.</p>	<p>Consideration during scheme planning and design could be given to reducing emissions and other aspects such as noise pollution and vibration dust which potentially effect health and well-being. The implementation of such mitigation measures will be led by delivery authorities and will be made at the design stage of all relevant schemes.</p>
<p>16. Promote community safety and reduce crime and the fear of crime for all citizens.</p>	<p>Consideration is given in the STP2 to safety improvements in relation to multi-modal hubs, but specific reference to natural surveillance and to reducing the potential for accidents and collisions involving wildlife could be included.</p>

12. Monitoring

The remaining ISA2 stage, as outlined in Section 3.3, is Stage E – Monitoring the significant effects of implementing the STP2. Monitoring of the STP2 will be completed post-adoption, in accordance with the SEA Directive and Regulation 17 of The Environmental Assessment of Plans and Programmes Regulations 2004. The SEA Directive requires that:

“member states shall monitor the significant environmental effects of the implementation of plans and programmes... in order, inter alia, to identify at an early stage unforeseen adverse effects and to be able to undertake appropriate remedial action’ (Article 10.1). In addition, the Environmental Report should provide information on a ‘description of the measures envisaged concerning monitoring’ (Annex I (i)) (Stage E).”

It requires the person by whom the plan or programme was prepared to monitor with a view to identifying, at an early stage, unforeseen adverse effects, and being able to undertake appropriate remedial action. As required by the SEA Directive, monitoring from the ISA2 will cover significant social, environmental and economic effects and it will involve measuring indicators that will enable the establishment of a causal link between the implementation of the STP2 and the likely significant effects (both positive and negative) being monitored.

TfN’s Monitoring and Evaluation Strategy is included in Annex 3 of the STP2 as a key component of the Plan, and links the STP2’s Vision, Strategic Ambitions and Headline and Core Objectives, to an Annual Action Plan and set of Performance Measures. This will allow TfN to monitor progress of its own programme of work in a proportionate way, given the challenges of quantifying TfN’s own contribution towards the objectives as a Strategic Transport Body.

A bespoke monitoring framework has also been developed for the ISA2 to specifically monitoring those effects relevant to the ISA Framework Objectives. It will enable any unexpected adverse effects due to implementation of the STP2 to be identified and potential mitigation options explored. This framework can be viewed in Table 14.

Table 14: ISA2 Monitoring Framework

No.	ISA Objective against which a significant effect has been predicted (without mitigation)	Indicators to be used	Targets	Source	Suggested frequency of analysis of monitoring of data / mitigation	Responsibility for undertaking monitoring	Direction of travel since STP1
1	Reduce greenhouse gas emissions from surface Transport in the North	CO ₂ emissions from surface transport	Reduce	TfN NoCarb model	Bi-annually	TfN supported by all relevant Transport Authorities within STP area	Decrease
		LZEVs as proportion of total fleet, by vehicle type	Increase	Govt Transport Statistics (NTS)	Annually	TfN supported by all relevant Transport Authorities within STP area	Increase
		Proportion of passenger travel kilometers for public transport	Increase	Govt Transport Statistics	Annually	TfN supported by all relevant Transport Authorities within STP area	Decrease
		Proportion of travel kilometers for walking and cycling	Increase	Govt Transport Statistics (NTS)	Annually	TfN supported by all relevant Transport Authorities within STP area	Increase during the pandemic, post-pandemic 'new normal' not yet clear (NTS 2021 published by December 2022)

		Zero overall regional increase in private car vehicle mileage on the North's road network to 2045, compared to 2018.	zero increase	DfT road traffic statistics	annually	TfN supported by all relevant Transport Authorities within STP area	Decrease in vehicle mileage since 2018 baseline figure; 2022 data not yet released
		Number of trips by active travel	increase	Govt Transport Statistics (NTS)	annually	TfN supported by all relevant Transport Authorities within STP area	decrease
		Number of trips by car, van or motorcycle	decrease	Govt Transport Statistics (NTS)	annually	TfN supported by all relevant Transport Authorities within STP area	decrease
		Number of trips by rail	increase	Govt Transport Statistics (NTS)	annually	TfN supported by all relevant Transport Authorities within STP area	decrease
		Number of trips by bus	increase	Govt Transport Statistics (NTS)	annually	TfN supported by all relevant Transport Authorities within STP area	decrease

		Volume of lower value freight movement (travel km) by mode (road, rail, water and air)	Reduce road, rail and air volume amount of lower value freight; Increase rail and water volume of higher value freight	Govt Transport Statistics, Haulage bodies; Freight Organisations	Annually	TfN supported by all relevant Transport Authorities within STP area	Rapid bounce back in rail freight volumes following reduction during the pandemic. Road freight statistics for 2021 reflecting road freight recovery will be published in Autumn 2022, giving an indication of market share.
2	Minimise embedded emissions from the development of new transport infrastructure and the maintenance of existing infrastructure	TfN do not deliver infrastructure schemes and it is therefore outside of our remit to manage embedded emissions in infrastructure. We do expect that partners and transport authorities adhere to PAS2080 standards in the delivery of infrastructure.	neutral	Delivery partner and transport authority reports and resources; PAS2080 framework	timelines based on transport authority reporting e.g. National Highways have published a five year delivery plan	Delivery partners; relevant transport authorities	National Highways have produced a net zero highways plan outlining their targets to support the governments ambition to reach net zero target and a delivery outlining sustainable practices that will reduce carbon emissions carbon emissions by 2050. The net zero highways plan outlines three main targets to make corporate emissions net zero by 2030; to make maintenance and construction net zero by 2040 and for road user

							emissions to be net zero by 2050.
3	Protect and enhance biodiversity, geodiversity and the green infrastructure network	Area of green infrastructure (greenways, etc.)	Increase	Natural England; Local Authorities; Transport Authorities – TfN promoted schemes only	Annually	TfN supported by all relevant Transport Authorities within STP area	Unclear, however, some significant new green infrastructure projects have been launched / delivered (e.g., Aire Valley green flood prevention measures, Northern Forest, significant investment and UK Government commitment to peat restoration - e.g., Peak District, Yorkshire Dales)
		Net gain in biodiversity (using the Defra metric) due to transport schemes	Increase	Natural England; Local Authorities; Transport Authorities – TfN promoted schemes only	Annually	TfN supported by all relevant Transport Authorities within STP area	BNG requirement not yet in force. Network Rail has set a target for no biodiversity net loss by 2024 and net gain by 2035, National Highways has set a target for no net loss in the Second Road Period (2020-25).

4	Conserve and enhance internationally designated environment sites	Number of transport schemes impacting on designated areas	Zero	Natural England – TfN promoted schemes only	Annually	TfN supported by all relevant Transport Authorities within STP area	Monitoring at scheme level undertaken by delivery authorities. .
5	Protect and enhance local air quality	Concentrations of air pollutants across the transport network	Reduce	DEFRA	Annually	TfN supported by all relevant Transport Authorities within STP area	Significant reduction in air pollution concentrations during the pandemic, but significant increase since then likely. Awaiting publication of 2021 data.
		Area covered by AQMAs declared due to transport emissions	Reduce	DEFRA	Annually	TfN supported by all relevant Transport Authorities within STP area	No significant change
		LZEVs as proportion of total fleet, by vehicle type	Increase	Govt Transport Statistics	Annually	TfN supported by all relevant Transport Authorities within STP area	Increase
		Proportion of passenger travel kilometers for public transport	Increase	Govt Transport Statistics	Annually	TfN supported by all relevant Transport Authorities within STP area	Decrease

6	Increase resilience of the transport network to extreme weather events and a changing climate	Proportion of travel kilometres for walking and cycling	Increase	Govt Transport Statistics	Annually	TfN supported by all relevant Transport Authorities within STP area	Increase during the pandemic, post-pandemic 'new normal' not yet clear (publication of NTS Autumn 2022)
		Proportion of drainage provision for transport schemes (new or improvements) incorporating best practice SuDS	Increase	Local Authorities; Transport Authorities / Agencies - TfN promoted schemes only	Annually	TfN supported by all relevant Transport Authorities within STP area	Network Rail is developing rail resilience actions linked to Route Strategies (see Third Adaption Report) and plans a leading metric tracking the resilience benefits of their investment by Control Period 7 (2024). Extreme heat in 2022 put significant pressure on rail infrastructure, highlighting the need for investment in mitigation. National Highways is setting increased requirements for drainage and investing in R&D and infrastructure studies to tackle heat and water stress.

7	Protect and enhance the blue infrastructure network including inland and coastal water environments	Proportion of drainage provision for transport schemes (new or improvements) incorporating best practice SuDS	Increase	Local Authorities; Transport Authorities / Agencies - TfN promoted schemes only	Annually	TfN supported by all relevant Transport Authorities within STP area	Uncertain - monitoring at scheme level may be undertaken by delivery authorities. .
		Number of water pollution incidents attributable to transport	Zero	Environment Agency; Local Authorities	Annually	TfN supported by all relevant Transport Authorities within STP area. Additional information provided by Environment Agency	Not published with breakdown to transport impacts.
8	Protect and conserve soil and remediate and avoid land contamination	Area of grade 1, 2 or 3a agricultural land permanently lost or significantly degraded as a result of transport schemes	Zero	Local Authorities; Transport Authorities / Agencies - TfN promoted schemes only	Annually	TfN supported by all relevant Transport Authorities within STP area	Uncertain - monitoring at scheme level may be undertaken by delivery authorities.
		Proportion of area covered by transport schemes located on	Increase	Local Authorities; Transport Authorities / Agencies - TfN	Annually	TfN supported by all relevant Transport Authorities within STP area	Uncertain - monitoring at scheme level may be undertaken by delivery authorities.

		previously developed land		promoted schemes only			
9	Support the conservation and enhancement of the quality and distinctiveness of historic assets, industrial and cultural heritage and their settings	Area of historic sites impacted by transport schemes	Decrease	Local Authorities; Transport Authorities / Agencies; Historic England - TfN promoted schemes only	Annually	TfN supported by all relevant Transport Authorities within STP area. Additional information provided by Historic England	Uncertain - monitoring at scheme level may be undertaken by delivery authorities.
		Number of heritage assets impacted by transport schemes					
10	Protect and enhance the character and quality of landscapes and townscapes	% area of transport schemes that incorporate improvements to public realm and sympathetic design	Increase	Local Authorities; Transport Authorities / Agencies - TfN promoted schemes only	Annually	TfN supported by all relevant Transport Authorities within STP area	Uncertain - monitoring at scheme level may be undertaken by delivery authorities.
		Countryside Quality Counts (CQC) - focus on any changes in the	No noticeable adverse changes in landscape quality	Natural England	As and when CQC results are published	TfN utilising information from Natural England	

		landscape quality due to transport effects)					
		Area covered by transport schemes within or in close proximity to AONB / National Park / Heritage Coast designated areas	No noticeable adverse changes in landscape quality	Local Authorities; Transport Authorities / Agencies; Parks authorities; Natural England - TfN promoted schemes only	Annually	TfN utilising information from Parks authorities and Natural England	MOU signed between National Highways and National Parks England in October 2019 for enhanced cooperation. Only known rail scheme in proximity to National Park/ AONB / Heritage Coasts. is Windemere Passing Loop to allow 30-minute frequency, which has full support of National Park Authority. Monitoring at scheme level may be undertaken by delivery authority.
11	Promote the prudent use of natural resources, minimise the production of waste and	Proportion (by mass) of recycled materials used in transport related construction	Increase	Local Authorities; Transport Authorities / Agencies - TfN promoted schemes only	Annually	TfN supported by all relevant Transport Authorities within STP area with additional information supplied by relevant Road and Rail Authorities	Network Rail continue to increase recycling rates. Combined recycling and reuse rates are highest in the country in North West and Central (75%), but combined reuse and recycle is below the national average in both regions
			Proportion (by mass) of waste arising				

	support re-use and recycling		associated with transport schemes which is reused or recycled				(still both above 90%). National Highways do not publish data on this at a portfolio level although it is mentioned in their 'Social Value Framework'.
			Proportion (by mass) of waste arisings associated with transport schemes which is sent to landfill				
12	Enhance long term economic prosperity and promote a clean and green economic transformation	Access to education, employment centers and key services by rail	Increase accessibility with a greater proportion of the population able to access employment within 60 minutes have a target to have 37% of the North's population able to access 500,000 jobs by	TfN analytical framework (NoRMS model)	Based on iterations of the modelling	TfN supported by all relevant Transport Authorities within STP area with additional information supplied by relevant Road and Rail Authorities	Baseline in 2018, data points will be added as the model is updated and re ran.

			rail within 60 minutes by 2050. This is part of a wider objective to integrate the North's labor market.				
13	Coordinate land use and strategic transport planning across the region	Proportion of the population that can access employment by rail within 60 mins	increase	TfN analytical framework (NoRMS model).	Based on iterations of the modelling	TfN supported by all relevant Transport Authorities within STP area with additional information supplied by relevant Road and Rail Authorities	A baseline figure is available for 2018, with data points added as the model is updated and re ran
14	Promote greater equality of opportunity for all citizens and reduce Transport Related Social Exclusion (TRSE), particularly for the North's	Eliminate the gap of population at high risk of TRSE for the North's sub-regions compared to the rest of the North: North East Eliminate the gap of population at high risk of TRSE for the North's	Reduce	TfN bespoke analysis; TRSE tool	Analysis is updated as the tool receives updates with input data	TfN supported by all relevant Transport Authorities within STP area	Initial baseline in 2019, this to be updated and data points added as the TRSE tool is updated

	most vulnerable groups.	sub-regions compared to the rest of the North: Yorkshire and Humber					
15	Improve the health and wellbeing for all citizens and reduce inequalities in health	Population within AQMA	Reduce	Local Authorities Transport Authorities / Agencies - TfN promoted schemes only	Annually	TfN supported by Local Authorities / Transport Authorities and Agencies within STP area	Overall increase in population within AQMAs, driven partly by rapid population growth in city centers.
		Population within Noise Important Areas					No change in areas covered and no new noise pollution data expected in 2022
16	Promote community safety and reduce crime and the fear of crime for all citizens	Crime incidents associated with transport network	Reduce	Govt Crime Statistics; British Transport Police	Annually	TfN informed by Crime Statistics and information supplied by British Transport Police	Data available but not yet requested by TfN in this format due to limitations in data in raw form
		Accidents and safety incidents associated with transport network	Decrease	Govt Transport Statistics (Road accidents and safety statistics)	Annually	TfN supported by all relevant Transport Authorities within STP area	Decline in road incidents since 2019. Provisional results since 2021 (waiting for 2022 data release)

13. Summary

This report has outlined the comprehensive and iterative process the ISA2 has undertaken in supporting the development of the STP2. Each stage of the STP2 has been assessed by the ISA2 team, in addition to continuous dialogue between the STP2 and ISA2 teams to ensure the plan progresses positively against the ISA2 Framework resulting in an effective plan for growth across environmental, economic, societal and health indicators.

To ensure transparency and avoidance of doubt throughout the ISA2 process, it was agreed that there would be two conclusions; the first summarising the assessment findings when considering only the policies within the consultation STP2 plan (main document), and the second summarising the assessment findings when considering the STP2 Vision, Ambitions and Objectives in Annex 1 and the STP2 Policy and Places Framework in Annex 2, in addition to policies included within the consultation STP2 plan (main document).

When solely considering the STP2 consultation plan without the Annexes, the thematic policies provide a strong strategic direction for transportation infrastructure across the plan area. These policies perform well against the ISA2 Framework, specifically in reducing greenhouse gas emissions and protecting local air quality; enhancing long term economic prosperity; and promoting inclusive and safe environments for all which support the three overarching ambitions of STP2.

However, the assessment findings also identify areas of uncertainty across the policies, specifically surrounding protecting and enhancing the blue infrastructure network, avoiding land contamination conserving and enhancing historic assets, landscapes and townscapes which could potentially result in transport infrastructure interventions which are likely to have implications on the local environment and surrounding landscapes. It is important, however, to note that the recommended enhancement measures to address these identified uncertainties would be considered at the design stage or project level, which would be led and delivered by the local transport authority. For this reason, they are not considered appropriate or proportionate to be included within the STP2.

When examining the consultation plan (main document) with Annexes 1 and 2, this overall plan provides a more robust policy foundation for future growth within the plan area. In addition to the thematic policies, the complete plan performs well against the ISA2 Framework, specifically in protecting and enhancing blue and green infrastructure, conserving and enhancing historic assets, landscapes, and townscapes.

It is important to note however, that areas of uncertainty or only slightly beneficial impacts remain across the Policy and Places Framework relating to avoiding land contamination and promoting the prudent use of natural resources. However, it was not considered appropriate or proportional to include this level of detail within the STP2 policies, with the identified uncertainties to be addressed in future projects being led and delivered by the delivery authorities. As outlined within the Action and Impact Framework within STP2, TfN would work with and influence the delivery authorities to minimise the adverse environmental and social impacts. Therefore, when considering the complete plan, with the annexes, this provides a stronger, more comprehensive policy document for future growth across environmental, economic, societal and health indicators and a firm basis for future transport planning for the North.

Following the STP2 plan consultation, responses received which are relevant to the ISA2 will be considered and appropriately actioned. Any changes made will be documented in an addendum to this report as part of stage D of the IA process. Following the completion of this stage, a post-adoption statement will be written, outlining the ISA2 process and confirming the monitoring process for the STP2 once it is adopted by TfN.

A.1 ISA2 Scoping Report

A.2 Equality Impact Statement

A.3 Objectives Compatibility Assessment

A.4 STP2 Policies Assessment

A.5 Reasonable Alternatives Assessment