



**Cumbria Transport
Infrastructure Plan:
Strategic Environmental
Assessment**

Environmental Report
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1 Introduction

1.1 Cumbria Transport Infrastructure Plan

- 1.1.1 Cumbria County Council as a Highways and Transport Authority has the duty to develop a Local Transport Plan (LTP). The Cumbria Transport Infrastructure Plan (CTIP) sets the policy framework for the role of transport and connectivity in supporting sustainable and inclusive growth in Cumbria for the period 2022–2037. It has been developed by Cumbria County Council and Cumbria Local Enterprise Partnership (LEP) and is Cumbria’s Local Transport Plan.
- 1.1.2 CTIP provides a clear foundation for continued dynamic growth in Cumbria by providing clear direction and signposting to future studies, initiatives, and schemes. This will promote Cumbria to be a leading authority in driving sustainable, dynamic and resilient economic growth.
- 1.1.3 CTIP sets out Cumbria County Council’s vision and strategy for the long-term development of transport solutions in the county. It will provide the framework for how transport will support the economic, social, and environmental development of Cumbria.
- 1.1.4 CTIP draws on the wider policies of the council, national and regional transport strategy / policy, and potential sources of funding streams.
- 1.1.5 The existing body of environmental law formerly administered by the EU has been transposed into domestic law. This means that there is still a requirement to prepare a Strategic Environmental Assessment (SEA) for the CTIP proposals.

1.2 What is the Strategic Environmental Assessment?

- 1.2.1 SEA is a mechanism for considering and communicating the likely significant effects of an emerging plan, and reasonable alternatives in terms of key environmental issues. The aim of SEA is to inform and influence the plan-making process with a view to avoiding or mitigating negative environmental effects and maximising positive effects.
- 1.2.2 The European Directive 2001/42/EC1 (the SEA Directive) requires certain plans to be subject to a Strategic Environmental Assessment (SEA). This Directive is transposed into English legislation through the SEA Regulations: Statutory Instrument 2004 No. 1633: The Environmental Assessment of Plans and Programmes Regulations 2004.
- 1.2.3 These Regulations require an environmental assessment to be carried out on certain plans and programmes prepared by public authorities that are likely to have a significant effect upon the environment. Certain plans, including LTPs, have been deemed by the Government to automatically require an SEA. The CTIP therefore requires an SEA.

1.3 The Environment Report

1.3.1 The SEA Directive lists the content that is required in the Environmental Report. Table 1 lists these requirements, along with a signpost to the relevant sections of this report where the requirements are met in a SEA Environmental Report.

Table 1: Requirements of the SEA Directive

Requirements of the SEA Directive (Annex 1)
(a) An outline of the contents, main objectives of the plan or programme and relationship with other relevant plans and programmes.
(b) The relevant aspects of the current state of the environment and the likely evolution therefore without implementation of the plan or programme.
(c) The environmental characteristics of areas likely to be significantly affected.
(d) Any existing environmental problems which are relevant to the plan or programme including, in particular those relating to any areas of particular environmental importance, such as designated pursuant to Directives 79/409/EEC and 92/43/EEC (transposed into UK legislation).
(e) The environmental protection objectives, established at International, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken account of during its preparation.
f) The likely significant effects on the environment, including on issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage including architectural and archaeological heritage, landscape and the interrelationship of factors.
g) The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.
(h) An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.
(i) A description of the measures envisaged concerning monitoring in accordance with Article 10 of 92/43/EEC (transposed into UK legislation).
(j) A non-technical summary of the information provided under the above headings.

1.3.2 The purpose of the Directive is to increase the level of protection for the environment by integrating environmental considerations into the preparation and adoption of plans and programmes, with the view of promoting sustainable development.

- 1.3.3 The SEA seeks to identify and evaluate the likely environmental impacts that a plan, programme, or policy may have prior to adoption and implementation. Identification of potential impacts in the early stages of the plan development allows time for alternative measures which may avoid adverse effects, to be identified and assessed.
- 1.3.4 The assessment should consider the likely positive, negative, short, medium, long-term, temporary, permanent, cumulative, and synergistic effects on these areas. These topic areas may also be referred to as “factors” or “receptors”.
- 1.3.5 The preparation of SEA is a four-stage process:
1. Scoping
 2. Assess Reasonable Alternatives – output interim SEA Reports
 3. Assess the Draft Plan – output SEA Report
 4. Prepare information on the decision – output is the SEA Statement
- 1.3.6 Work on the SEA commenced in June 2021. The statutory consultees – English Heritage, Environment Agency and Natural England – were consulted on the scope of the SEA; their comments have been received.
- 1.3.7 The Environment Report was published for consultation alongside the CTIP. Comments received during the consultation period have been considered in the preparation of the final environment report.

1.4 Other Assessments required

Equality Impact Assessment (EqIA)

- 1.4.1 Cumbria County Council must have due regard to its Public Sector Equality Duty when making all decisions at member and officer level. An EqIA is the best method by which the Council can determine the impact of a proposal on equalities, particularly for major decisions. However, the level of analysis should be proportionate to the relevance of the duty to the service or decision.

Habitat Regulations Assessment (HRA)

- 1.4.2 The CTIP needs to be subject to a Habitats Regulations Assessment (HRA). From 31 January 2020 (day of UK exit from the EU) until 31 December 2020 (Implementation Period Completion day) the Conservation of Habitats and Species Regulations 2017 (“Habitats Regulations”) remained in force without any of the amendments relating to Brexit made by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
- 1.4.3 The 2019 Regulations became operable on 1 January 2021. SACs and SPAs no longer form part of the EU’s Natura 2000 ecological network and that any references to Natura 2000 in the 2017 Regulations and in the guidance now refers to the new National Site Network sites. Ramsar sites do not form part of the National Site Network sites (many overlap with SACs and SPAs) but with all Ramsar sites remaining protected in the same way as SACs and SPAs.

- 1.4.4 The “competent authority” (in this case, Cumbria County Council) has undertaken a strategic HRA to assess the actions and objectives developed for CTIP based on the specific requirements of the HRA process. Some of the information collected as part of the SEA is relevant to the HRA as well.
- 1.4.5 The National Site Network sites and Ramsar Sites are included in Appendix A:
Water Environment (Water Framework Directive)
- 1.4.6 The Water Framework Directive (WFD) is an important mechanism for assessing and managing the water environment in the EU, through a six-yearly cycle of planning and implementing measures to protect and improve the water environment. This indicator shows the percentage of surface water bodies in each status classification and assesses the change in the percentage of water bodies in the UK awarded a good or high surface water status classification under the WFD. Around 10,000 water body assessments are included in the indicator each year, including rivers, canals, lakes, estuaries and coastal waters
- 1.4.7 The aim of the WFD is for all inland and coastal waters in the EU to be in “good” condition. Good condition is achieved in part by creating a system of management plans, called River Basin Management Plans (RBMPs). Cumbria is within the North West and Solway Tweed RBMP area. Some of the aims of the WFD are relevant to the preparation of CTIP and the Local Flood Risk Management Strategy (LFRMS) has the potential to help deliver some of the actions identified in the RBMPs.
- 1.4.8 To ensure that CTIP do not conflict with the RBMPs or undermine the aims of the WFD, a WFD assessment of the proposed policies and actions under the CTIP has been carried out in consultation with the Environment Agency.
- 1.4.9 The Water Framework Directive Assessment Report is included as Appendix D:
National and Regional Transport Policy
- 1.4.10 CTIP cannot be developed in isolation. It must take account of national and regional policies.
- 1.4.11 The main drivers for change are at the National level. The Clean Air Strategy was published in January 2019. It sets out the comprehensive action required across all parts of government to meet legally binding targets to reduce emissions of five key pollutants by 2020 and 2030, and secure significant public health benefits. The Strategy also made a commitment to bring forward primary legislation on clean air, as outlined in the Environment Bill.
- 1.4.12 The Department for Transport’s Transport Decarbonisation Plan was published in July 2021. This sets out their roadmap to the decarbonisation of transport networks by 2050. In doing this it considers individual modes but also the role of new technology and innovation as an enabler of change.

1.4.13 The Transport for the North (TfN) Decarbonisation Strategy proposes the achievement of a regional near-zero carbon surface transport network by 2045 (ahead of the government's target).

2 Background

2.1 Cumbria Transport Infrastructure Plan

2.1.1 The proposed aims of CTIP are to:

- Set out the case for infrastructure investment to deliver priorities;
- Align it to the framework created by national and regional strategies;
- Demonstrate the evidence to support the case for infrastructure improvements in Cumbria;
- Set out the role of sustainable transport in supporting the environment and economic growth; and
- Demonstrate the role of infrastructure investment in supporting Local Plans and meeting key challenges including climate change, future mobility needs and public health.

2.1.2 The proposed objectives for CTIP are:

- Clean and Healthy Cumbria: Promoting active travel and digital infrastructure as enablers of inclusive economic growth and supporting the health and wellbeing of our communities and the decarbonisation of transport networks.
- Connected Cumbria: Promoting improved transport networks across and into Cumbria to connect our places and support economic growth and opportunities for businesses and communities.
- Community Cumbria: Promoting integrated approaches to transport that are affordable, safe and meet the access and mobility needs of all, and which support opportunity and renewal within towns and communities across Cumbria with better transport used to improve social inclusion.

2.1.3 The objectives are further broken down into nine action areas:

- Clean and Healthy Cumbria:
 - Establish comprehensive **active travel** networks to increase the number of people walking and cycling across Cumbria.
 - Enhance **digital** connectivity to ensure more people and businesses have the access they require and to support innovation across transport networks.
 - Facilitate the delivery of electric vehicle and **transmission** and distribution infrastructure to support the decarbonisation of our transport networks and meet the needs of a growing economy.

- Connected Cumbria:
 - Achieve enhanced **rail** connectivity through improved stations, services and rail infrastructure within Cumbria, for both local and long distance journeys.
 - Secure delivery of improvements and maintenance to our **road** networks and to complement the rollout of electric vehicles.
 - Grow the role of Cumbria's ports, airport and regional hubs to enhance wider **international** connectivity and economic performance.
- Community Cumbria:
 - Establish innovative approaches to the delivery of new **bus** services and infrastructure, particularly within rural areas.
 - Enhance active, safe and sustainable travel within the heart of our **town centres** making connectivity a core part of successful public spaces.
 - Secure the **integration** of transport modes, including integrated ticketing and journey planning to support travel choice and the drive to decarbonise our transport networks.

2.2 CTIP vision

- 2.2.1 CTIP sets a vision for improving transport and infrastructure in Cumbria that provides for the needs of residents, businesses and visitors as well as respecting our special environment. The plan is also about how Cumbria supports recovery from the Covid-19 pandemic and seeks to respond to the challenges of climate change.
- 2.2.2 CTIP sets out Cumbria County Council's vision and strategy for the long-term development of transport solutions in the County. It provides the framework for how transport will support the economic, social, and environmental development of Cumbria. It sets out key proposals for the three CTIP objectives, broken down into the nine action areas.
- 2.2.3 CTIP draws on the wider policies of the council, national transport strategy / policy, and potential sources of funding streams.
- 2.2.4 The existing body of environmental law formerly administered by the EU has been transposed into domestic law. This means that there is still a requirement to prepare a Strategic Environmental Assessment (SEA) for the CTIP proposals.
- 2.2.5 The vision for CTIP is that:

"In 2037 Cumbria will be one of the best connected rural geographies in the UK. Embracing innovation and opportunity; clean growth and decarbonising transport networks will be integral to a growing, inclusive economy where our communities will be able to access opportunities, services, education and leisure facilities. Cumbria will be a destination of choice; where people choose to live, visit and work."

2.3 Cumbria's Future Needs

- 2.3.1 The potential future transport needs for Cumbria have been considered to inform the key policy proposals in the CTIP.
- 2.3.2 Firstly, the transport baseline in Cumbria was considered, and key transport corridors were established from this baseline. Six transport corridors were identified:
- The Energy Coast, covering a broad section of Cumbria along the west coast between Carlisle and Barrow-in-Furness
 - The Manufacturing Coast, covering the area from Millom in the west to the Lancashire border in the east
 - Connecting Cities, focussed on the city of Carlisle linking into Scotland, the North East and West Cumbria
 - The UK Gateway, spanning the full length of eastern Cumbria from Scotland to Lancashire
 - The Heart of the Lakes, covering the Lake District National Park and its settlements
 - The East-West Link, focussing on the area between West Cumbria and the Yorkshire border
- 2.3.3 A consideration of potential future changes in the drivers behind transport demand led to an assessment of the future transport needs of these corridors.
- 2.3.4 The assessment showed that the areas to the west of the M6 had the highest level of disconnect from the rest of the UK, with problems especially prevalent in the rail network. However, the county has widespread issues, with areas in the Lakes having poor levels of connectivity to modern technologies such as electric vehicle charging or digital information. In addition, traditional problems of congestion and journey time reliability also exist, with forecast increases in congestion on the A590 near Barrow-in-Furness and between Carlisle and West Cumbria on the A595.
- 2.3.5 The CTIP uses this information to inform the challenges, opportunities, ambition and key proposals for the nine action areas within the three CTIP objectives.

3 Scoping of the Strategic Environmental Assessment

- 3.1.1 Scoping forms a key part of the SEA process and identifies the potentially significant environmental and social effects of a Strategy or Plan to inform its development. The purpose of scoping is to determine the extent and level of detail to be considered in the SEA, including the identification of issues that are not relevant to the Strategy, and hence will not require further assessment.
- 3.1.2 In essence, scoping is the process of gathering information about the area and factors likely to be affected CTIP. This information helps to identify what the key issues are and which of these should be the focus of the SEA process.
- 3.1.3 The scope of the SEA is set out in this Environment report, with several key requirements emanating from the SEA Regulations.
- 3.1.4 The requirements of the SEA Directive set out what the overall scope of the SEA should contain. The draft scope for the SEA was subject to consultation, and the responses have helped to shape the content of the scope.

3.2 Baseline information

Introduction

- 3.2.1 The Baseline Information Report contains evidence to inform scoping of the Strategic Environmental Assessment (SEA) of CTIP. This is the first stage in the preparation of the SEA.
- 3.2.2 The term 'baseline' refers to the existing environmental, economic and social characteristics of the area likely to be affected by CTIP, and their likely evolution without implementation of CTIP.
- 3.2.3 The Baseline Information Report is a 'live' document that will be updated when relevant new data sets are sourced.
- 3.2.4 The 12 mandatory topics are set out below:
1. Population: Options should consider population/housing growth, rural isolation and deprivation, accessibility to jobs, facilities and services, and modes of transport.
 2. Health: Options should consider links to air pollution and vehicle emissions, road safety and access to health facilities. A Health Impact Assessment (HIA) will be prepared.
 3. Noise: Transport noise should be considered in the SEA.
 4. Air quality: Air quality can be significantly affected by transport, especially from private vehicles in urban areas.

5. Greenhouse gas emissions and climate change / climatic factors: While national data shows an overall fall in greenhouse gas emissions in the UK since 1990, UK emissions of carbon dioxide (CO₂) from road transport have increased, against the trend in emissions from other sectors.
 6. Biodiversity, flora and fauna: international, national and local designations; Nationally and regionally important habitats and species (national and local habitats and species of principal importance).
 7. Geology and soils: The CTIP could have direct and indirect impacts on geology and soils for example demand for aggregates for road improvements and surface water run off impacting on soil quality.
 8. Water: The CTIP could have direct and indirect (positive and negative) effects on water quality, flood risk and the Water Framework Directive (WFD) objectives. The SEA should include a preliminary WFD assessment.
 9. Material assets: the term “material assets” is not defined in the SEA Directive. For the purposes of this SEA, the term is used in relation to the following receptors: critical infrastructure, mineral resources and waste management
 10. Cultural, architectural and archaeological heritage: CTIP will need to consider how best to accommodate the proposed changes and proposed economic growth in the county while sustaining the significance and character of the heritage assets; and
 11. Landscape: Landscape designations are applied to areas of special value at international, national, regional or local level in relation to particular qualities, or historical or cultural associations.
 12. Following internal consultation, an additional consideration, Visitor and Rural Economy, was added to the list of mandatory considerations due to its importance to the Cumbria economy.
- 3.2.5 The inter-relationship between the 12 environmental topics were considered as the Environment Report has been developed.
- 3.2.6 The baseline information that underpins the report is set out in Appendix B: .

3.3 Strategic Environmental Assessment Objectives

3.3.1 The objectives for the SEA are set out below:

1. Maintain the vitality of town centres
2. Improve accessibility to jobs, facilities and services
3. Enhance and protect the green infrastructure and countryside
4. Protect and promote everyone’s physical and mental wellbeing and safety
5. Reduce noise pollution
6. Reduce all forms of transport-related air pollution in the interests of local air quality
7. Reduce transport related greenhouse gas emissions

8. Protect and enhance habitats and the diversity and abundance of species
9. Maintain and improve the quality of water resources
10. Retain the floodwater storage function of riparian land and the floodplain and reduce the risk of flooding where it would be detrimental
11. Maintain resources such as minerals and soils and enhance geological diversity
12. Optimise the use of previously developed (brownfield) land thereby reducing use of greenfield land
13. Reducing waste generation by maximising recycling
14. Adapt transport network to climate change
15. Protect and where possible, enhance the historic environment, heritage assets and their settings
16. Maintain and enhance the quality and distinctiveness of the built environment
17. Maintain and enhance the quality and character of the landscape, including its contribution to the setting and character of settlements
18. Maintains and supports the growth in productivity of the rural and visitor economy

3.4 Consultation

- 3.4.1 The scope of the SEA was subject to consultation with the designated consultation bodies – the Environment Agency, Natural England and English Heritage – between 24 June 2021 and 19 July 2021. Comments from these bodies have been incorporated into this final report.
- 3.4.2 A draft of this Environment report was subject to consultation alongside the CTIP in Autumn 2021.

4 Strategic Environmental Assessment of CTIP

4.1 Summary

4.1.1 The Strategic Environmental Assessment has been undertaken on the Cumbria Transport Infrastructure Plan 2022–2037.

4.1.2 Key National and Regional Policy influences relevant to the SEA are set out in Section 1 of this document.

Relevant aspects of the current state of the environment and the likely evolution therefore without implementation of the plan or programme

4.1.3 Cumbria is a predominantly rural county, which means that there is an inherent need for people to travel further to access services by car. Key drivers will be the direction and timing of the implementation of government policy and the ability of the market to deliver on the anticipated outcomes of policy.

4.1.4 The Department for Transport's Transport Decarbonisation Plan was published in July 2021. This sets out their roadmap to the decarbonisation of transport networks by 2050.

4.1.5 The plan considers the decarbonisation of all modes of transport, through increasing the number of walking and cycling trips, decarbonising railways and buses through removing diesel trains and providing zero-emission buses, phasing out petrol and diesel cars, and decarbonising the aviation and maritime sector. The plan also considers the decarbonisation of places through investing in local transport, as well as using sustainable low-carbon fuels and delivering zero-emission freight and logistics.

4.1.6 Importantly for Cumbria, the plan looks to identify innovative opportunities for decarbonisation in rural areas through the upcoming Future of Transport: Rural Strategy. This recognises the difficulty in providing public transport in rural areas, and that rural, remote areas will depend more heavily on roads when compared to urban areas.

4.1.7 The Transport for the North (TfN) Decarbonisation Strategy proposes the achievement of a regional near-zero carbon surface transport network by 2045 (ahead of the government's target). At a pan-northern level TfN's decarbonisation trajectories project:

- a 55% reduction in emissions from 2018 to 2030, achieved mostly through mode-shift and demand reduction.
- a 95% reduction in emissions from 2018 to 2040, reflecting longer-term decarbonisation measures, such as a high proportion of zero-emissions vehicles in the vehicle fleet.
- a close to zero date of 2045 for carbon emissions from surface transport in the North.

- 4.1.8 To achieve the decarbonisation of the transport network it is important that necessary infrastructure is delivered in a timely manner.
- 4.1.9 For example, a report by the Policy Exchange in February 2021¹ considers that the rollout of electric vehicle charging points has fallen behind what is needed to meet a planned ban on new petrol and diesel cars. It identifies a risk of "charging blackspots" in small towns and rural areas unless the rollout speeds up. The report says the UK will need 400,000 public chargers by 2030, up from 35,000 currently.
- 4.1.10 To meet demand when new conventionally fuelled cars and vans are prohibited in 2030, the annual rate at which charge-points are being installed must increase from about 7,000 over the past three years to 35,000 over the next decade.
- 4.1.11 The report advocates that the government should focus on areas where it isn't delivering enough public charge-points, including the north west of England.

Existing environmental issues which are relevant to the plan or programme including, those relating to any areas of particular environmental importance, such as National Sites Network sites² and Ramsar Sites

- 4.1.12 CTIP sets a vision for improving transport and infrastructure in Cumbria that responds to the needs of residents and businesses as well as respecting the special environment of Cumbria.
- 4.1.13 CTIP acknowledges the importance of Cumbria's environment by reference to its international, national and local designations. These designations recognise and seek to protect and enhance its landscape, biodiversity, heritage and other environmental assets.
- 4.1.14 Environmental protection objectives, and the likely significant effects on the environment on biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage (including architectural and archaeological heritage), landscape and the interrelationship of factors have been considered during the development of the CTIP.

Measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme

- 4.1.15 As proposals in the CTIP are developed they need to take account of their specific impacts on nature conservation designations, particularly National Sites Network sites and Ramsar Sites.

¹ <https://policyexchange.org.uk/publication/charging-up>

² National Sites Network sites include sites previously identified as 'European' sites (Special Areas of Conservation and Special Protection Areas). As Ramsar sites are not European Sites they continue to be identified separately. SACs, SPAs and Ramsar Sites are listed by designation in Appendix 1

- 4.1.16 The potential environmental impacts of specific interventions identified within the CTIP will be assessed using the mitigation hierarchy – avoidance, minimisation, rehabilitation / restoration and offset – at an appropriate point during the development of that intervention.

Outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information

- 4.1.17 CTIP has considered proposals based on the three objectives and nine subsequent action areas, informed by the future needs of six transport corridors. While previously identified transport interventions are proposed within the action areas, detailed assessments of the impacts of these schemes, based on alignments or routes, are not possible at the strategic policy level of CTIP. As such, there is no requirement to formally undertake a Habitats Regulations Assessment or wider Strategic Environmental Assessment for the CTIP.

- 4.1.18 Any schemes brought forward by the council will have the necessary funding in place required for delivery and will include the submission of relevant statutory powers and procedures, such as a planning application, accompanied by necessary supporting documentation, at the appropriate stage of scheme development. For major schemes, this would include a Habitats Regulations Assessment and Strategic Environmental Assessment which considers the impacts of that scheme, including evidence of application of the mitigation hierarchy.

Description of the measures envisaged concerning monitoring in accordance with Article 10 of 92/43/EEC (transposed into UK legislation)

- 4.1.19 Member States shall endeavour, where they consider it necessary, in their land-use planning and development policies and, in particular, with a view to improving on the conservation of natural habitats and of wild fauna and flora ecological to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Such features are those which, by virtue of their linear and continuous structure (such as rivers with their banks or the traditional systems for marking field boundaries) or their function as stepping-stones (such as ponds or small woods), are essential for the migration, dispersal and genetic exchange of wild species.

Non-technical summary of the information provided under the above headings

- 4.1.20 The SEA has been subject to an Alternative Options Assessment. The assessment considered the impacts of proposals of the nine action areas derived from the three CTIP objectives on the 18 SEA objectives. The assessment also considered the impacts of an alternative option, a Business as Usual scenario, where Cumbria does not have CTIP providing the policy framework for the role of transport and connectivity in Cumbria to 2037.

- 4.1.21 As noted, while the CTIP includes references to specific interventions, the specific impacts of these schemes have not been assessed.
- 4.1.22 The results of the SEA Alternative Options Assessment for CTIP are presented in Appendix E: , while a summary of the assumptions and conclusions of the assessment are presented below for each CTIP objective.

4.2 Clean and Healthy Cumbria

- 4.2.1 The Clean and Healthy Cumbria CTIP objective promotes the role of walking and cycling and digital infrastructure to enable inclusive economic growth, support the health and wellbeing of Cumbria's communities and to decarbonise Cumbria's transport networks. The Clean and Healthy Cumbria objective is split into three action areas: active travel, digital, and transmission.
- 4.2.2 For the Active Travel action area, CTIP proposes to deliver Local Cycling and Walking Infrastructure Plans, alongside strategic greenways, which would ultimately provide comprehensive and coherent walking and cycling networks. In the Business as Usual scenario, it is assumed that while some level of investment in walking and cycling networks is secured, improvements will be piecemeal and critical gaps will remain.
- 4.2.3 The assessment shows that the CTIP Active Travel proposals would lead to mode shift and lower traffic flows, with associated environmental benefits. The improved networks would also improve access to jobs, services and opportunities, especially for those without access to a car. This would lead to positive impacts for town centres, accessibility, health and wellbeing, air quality, greenhouse gases, and resilience. The Business as Usual assessment shows that impacts are mostly neutral or of no effect, as the full potential of encouraging walking and cycling could not be achieved without a holistic and coherent planning approach, and gaps in routes would hinder mode shift towards active travel, leaving higher traffic flows.
- 4.2.4 For the Digital action area, CTIP proposes to continue to support the roll-out of full fibre and improved mobile network connectivity throughout the county, including isolated rural areas. In the Business as Usual scenario, it is assumed that the roll-out may result in continued 'not-spots' where digital connectivity is poor or absent, particularly in rural areas.
- 4.2.5 The assessment shows that the CTIP Digital proposals would lead to a reduced need to travel through improved digital connectivity. This would also support the visitor economy; improved access to real-time travel information would reduce the reliance on the private car by providing confidence to visitors that they can access the travel information they need. This would lead to positive impacts for accessibility, air quality, greenhouse gases, resilience and the visitor economy. The Business as Usual assessment shows that whilst some of these positive impacts could still be achieved, support for the objectives would overall be weaker due to remaining areas of poor connectivity.

- 4.2.6 For the Transmission action area, CTIP proposes to identify intervention for early delivery of electric vehicle charging on key routes, employment sites and visitor destinations. This would help maximise the use of electric vehicles in the county for residents and visitors. In the Business as Usual scenario, it is assumed that electric vehicle charging rollout would continue through existing programmes, but the commercially-led nature of this may lead to an absence of infrastructure in key rural areas.
- 4.2.7 The assessment shows that the CTIP Transmission proposals would lead to an improved take-up of electric vehicles by ensuring that infrastructure is targeted on where it is needed. This would lead to positive impacts for town centres, air quality, greenhouse gas emissions and the visitor economy. The Business as Usual assessment shows that the commercially-led provision would lead to gaps, particularly in rural areas, disincentivising the use of electric vehicles due to range anxiety.

4.3 Connected Cumbria

- 4.3.1 The Connected Cumbria CTIP objective promotes improved transport networks across and into Cumbria, to support economic growth and opportunities for the people and businesses of Cumbria. The Connected Cumbria objective is split into three action areas: rail, road, and international.
- 4.3.2 For the Rail action area, CTIP proposes the engagement of key rail stakeholders and the promotion of improvements to line capacity, stations, services and rolling stock to encourage mode shift to rail as well as decarbonisation. A particular emphasis is placed on encouraging further rail freight. In the Business as Usual scenario, it is assumed that only current service provision would be maintained, as rail improvements are not directly delivered by the council.
- 4.3.3 The assessment shows that the CTIP Rail proposals would lead to reduced journey times and improved station facilities, as well as an increase in rail freight. This would lead to positive impacts for town centres, accessibility, greenhouse gases, the historic environment and the built environment. The Business as Usual assessment shows that without rail improvement, only minimal positive benefits could be achieved through maintaining existing provision.
- 4.3.4 For the Road action area, CTIP proposes to improve the road networks through capacity upgrades and new infrastructure. This would reduce congestion and improve the resilience of the network. In the Business as Usual scenario, it is assumed that the current highways would be maintained, and that there would be minimal delivery of new road infrastructure. This is because the council's ability to access third party funding to deliver significant highway schemes requires a policy need for improvement.

- 4.3.5 The assessment shows that the CTIP Road proposals would lead to reduced journey times, improving accessibility to jobs and services, particularly for rural or isolated communities, and providing resilience or alternative routes to cope with closures through extreme weather. This would lead to positive impacts for town centres, accessibility and resilience. The Business as Usual assessment shows minimal positive impacts due to increased congestion and a lack of alternative routes.
- 4.3.6 For the International action area, CTIP proposes to support ports and the airport by securing investment for their growth, and improving access to these sites, as well as access to external airports that link to Cumbria. This would support growth in marine freight, as well as connectivity for international visitors. In the Business as Usual scenario, it is assumed that operation of the ports and airport will continue as commercially-led.
- 4.3.7 The assessment shows that the CTIP International proposals would lead to increased marine freight, reducing the impact of long-distance heavy goods vehicles. The proposals would also support the access of international visitors to the county, in particular through strengthened links to Manchester Airport. This would lead to significant positive impacts for town centres and the visitor economy. The Business as Usual assessment shows no significant positive impacts, as the commercially-led operation of ports and airports does not lead to any change in provision.

4.4 Community

- 4.4.1 The Community Cumbria CTIP objective promotes integrated approaches to transport, supporting renewal in towns and communities and using improving transport to increase social inclusion. The Community Cumbria objective is split into three action areas: bus, town, and integration.
- 4.4.2 For the Bus action area, CTIP proposes a Bus Service Improvement Plan to improve services and infrastructure, alongside new and innovative approaches to demand responsive services for rural communities. This would provide new opportunities to travel, particular for those without access to a car, as well as encouraging mode shift from the private car. In the Business as Usual scenario, bus planning would continue to be commercially-led, to the detriment of services which are not commercially viable.
- 4.4.3 The assessment shows that the CTIP Bus proposals would lead to more attractive bus services, increasing bus passenger numbers, and improving access to jobs and opportunities. This would lead to positive impacts for town centres, accessibility, health and wellbeing, greenhouse gases and resilience. The Business as Usual assessment shows predominantly neutral or no effect.
- 4.4.4 For the Town action area, CTIP proposes to improve town centres to create high-quality public spaces with integrated transport infrastructure. This would reduce the dominance of the private car and resolve severance issues in town centres. In the Business as Usual scenario, it is assumed that improvements through existing programmes are piecemeal and lacking a coherent strategy.

- 4.4.5 The assessment shows that the CTIP Town proposals would create safe and attractive streets, encouraging people to visit town centres. This would lead to significant positive impacts for town centres, accessibility, and the historic and built environment. The Business as Usual assessment shows minor positive impacts for the town centres, health and wellbeing, the use of brownfield land and the visitor economy.
- 4.4.6 For the Integration action area, the CTIP proposes policies to integrate timetabled public transport modes alongside new infrastructure at transport hubs. This would maximise the ability for people to make longer multi-mode journeys, encouraging mode shift and improving access to jobs and services. In the Business as Usual scenario, it is assumed that only minor integration on an ad-hoc basis would be achievable without a clear overarching strategy.
- 4.4.7 The assessment shows that the CTIP Integration Proposals would lead to real mode choice, both for residents but also for visitors. This would lead to significant positive impacts for town centres, accessibility, noise, air quality, greenhouse gases and the visitor economy. The Business as Usual assessment shows no significant positive impacts, and negative impacts for town centres and the visitor economy.

5 Monitoring and evaluation

5.1 Monitoring the environmental impacts of CTIP

- 5.1.1 The implementation of the CTIP needs to be monitored to understand the realised environmental impacts of the CTIP proposals. As noted in the previous section, as specific schemes are developed and delivered in order to achieve the objectives of the CTIP then environmental assessment will be undertaken, but the monitoring of overall impacts across Cumbria is still required.
- 5.1.2 The monitoring of environmental impacts is necessary to ensure that predicted positive impacts are realised, as well as highlighting negative impacts that may require mitigation.
- 5.1.3 The monitoring of environmental impacts needs to consider the objectives of the SEA and define a set of metrics or indicators that allow the impacts to be quantified. Potential metrics for each objective are set out below.

Table 2: Potential monitoring metrics

No.	Objective	Metric
1	Town centres	Employment in town centres
2	Accessibility	Journey times by mode to key destinations Mode share Public transport usage
3	Green infrastructure	Number of new/improved green infrastructure
4	Health and safety	Number of road traffic accidents Walking and cycling usage
5	Noise	Appraisal of noise impacts of schemes
6	Air quality	Number of Air Quality Management Areas Air quality at monitoring locations
7	Greenhouse gases	Transport carbon dioxide emissions
8	Biodiversity	Appraisal of biodiversity impacts of schemes
9	Water quality	Appraisal of water quality impacts of schemes
10	Flood risk	Appraisal of flood risk impacts of schemes
11	Minerals and soils	Appraisal of geological impacts of schemes
12	Greenfield land	Greenfield land change due to scheme development

No.	Objective	Metric
13	Waste generation	Appraisal of waste impacts of schemes
14	Resilience	Journey times during disruption events Change in distance of diversion routes
15	Historic environment	Appraisal of historic environment impacts of schemes
16	Built environment	Appraisal of built environment impacts of schemes
17	Landscape	Appraisal of landscape impacts of schemes
18	Visitor economy	Employment by sector

5.1.4 At this stage the monitoring plan has not been finalised, as further work is required to understand how data can be collected to support the metrics, and is subject to consultation. The monitoring plan will be finalised alongside the CTIP's annual monitoring report.

Appendix A: National Sites Network sites (SACs and SPAs) and Ramsar Sites in Cumbria

National Site Network sites	Grid Reference	Area (Ha)
[SACs]		
Asby Complex	NY598112	312.23
Bolton Fell Moss	NY490688	374.74
Border Mires Kielder Butterburn	NT684013 [cross border with Northumberland]	11,851.77
Borrowdale Woodland Complex	NY235129	667.83
Clints Quarry	NY161357	12.03
Cumbria Marsh Fritillary	NY400409	22.96
Drigg Coast	SD071960	1,397.44
Duddon Mosses	SD223853	313.07
Hellsbeck and Swindale Woods	NY784164	136.38
Lake District High Fells	NY303318	26,999.36
Shell Flat and Lune Deep	Extra Regio	14,019.00
Moor House Upper Teesdale	NY799358 [cross border with County Durham]	38,795.99
Morecambe Bay	SD371697 [cross border with Lancashire]	61,506.22
Morecambe Pavements Bay	SD440869	2,609.69
Naddle Forest	NY494144	360.89
North Pennine Dales Meadows	NY931256 [cross border with County Durham, Lancashire, North Yorkshire and Northumberland]	479.09
North Pennine Moors	SE137749 [cross border with County Durham, North Yorkshire and Northumberland]	103,109.42
River Derwent and Bassenthwaite Lake	NY262207	1,832.96
River Eden	NY462237	2,463.23
River Ehen	NY031144	2,439.00
River Kent	SD508953	109.12
Roudsea Wood and Mosses	SD347807	470.45

National Site Network sites	Grid Reference	Area (Ha)
Shell Flat and Lune Deep	Extra-Regio	10,567.49
Solway Firth	NY144648 [cross border with Dumfries and Galloway]	43,636.72
Solway South Mosses	NY203597	1,962.36
Slubberthwaite, Blawith & Torver Low Commons	SD269869	1,865.17
Tam Moss	NY400274	17.03
Tyne & Nent	NY715418	36.84
Ullswater Oak Woods	NY400128	123.41
Walton Moss	NY504665	285.89
Wastwater	NY164062	286.21
Witherslack Mosses	SD457826	486.53
Yewbarrow Woods	SD347872	112.89
[SPAs]		
Duddon Estuary	03 15 24 W 54 10 39 N	6,806.30
Leighton Moss	02 47 31 W 54 10 03 N	128.61
Liverpool Bay	03 13 16 W 56 33 30 N	197,504.24
Morecambe Bay	02 57 21 W 54 07 19 N	37,404.60
North Pennine Moors	02 14 49 W 54 39 24 N [cross border with Durham, North Yorkshire and Northumberland]	147,246.41
Upper Solway Flats and Marshes	03 25 27 W 54 54 20 N [cross border with Dumfries and Galloway]	43,636.73
RAMSARS		
Duddon Estuary	03 15 24 W 54 10 39 N	6,806.30
Esthwaite Water	02 59 06 W 54 21 37 N	137.40
Irthinghead Mires	02 30 43 W 55 04 46 N	792.08
Leighton Moss	02 47 31 W 54 10 03 N [cross border with Lancashire]	128.61
Morecambe Bay	02 57 21 W 54 07 19 N [cross border with Lancashire]	37,404.60
Upper Solway Flats and Marshes	03 25 27 W 54 54 20 N	43,636.73

Appendix B: Baseline report

1. POPULATION

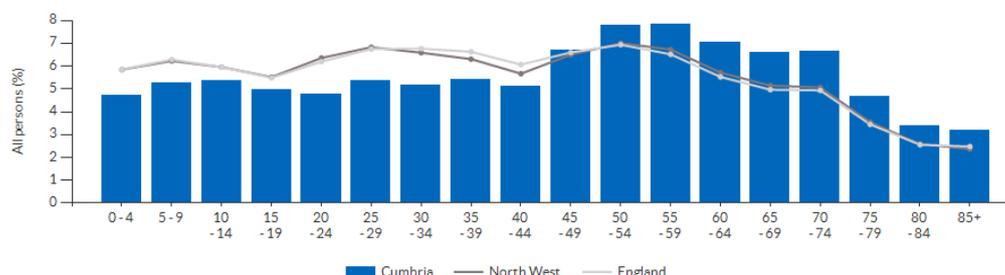
1.1 Cumbria’s population in May 2019 was 500,012 people. When compared to the national average, Cumbria has a lower proportion of younger residents and a higher proportion of older residents. If recent demographic trends continue, Cumbria’s total population would decline slightly, with large decreases in the number of 0–15 years old and 16–64 years old offset by a large increase in the number of over 65s.

1.2 These trends show marked differences between Cumbria and the North West / England – see Table 1 and Figure 1.

Table 1: Population of Cumbria, North West England and England (source ONS via Cumbria Observatory)

Age	Cumbria		North West		England	
	No.	%	No	%	No	%
Persons aged 0 - 15	82,265	16.5	1,405,707	19.2	10,816,679	19.2
Persons aged 16 - 64	295,387	59.1	4,560,378	62.1	35,116,566	62.4
Persons aged 65+	122,360	24.5	1,375,111	18.7	10,353,716	18.4

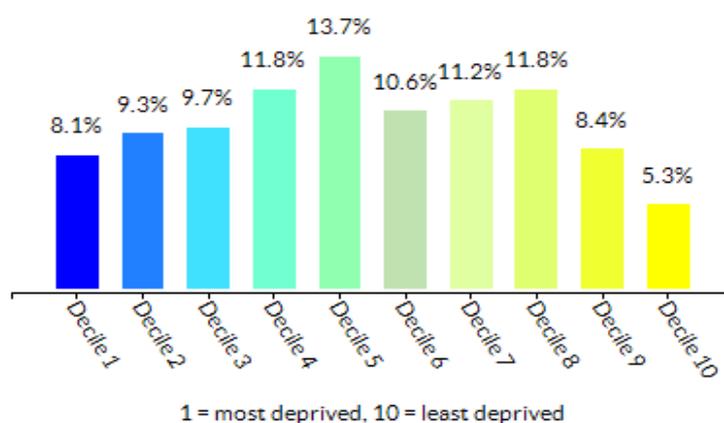
Figure 1: Population of Cumbria, North West England and England (source ONS via Cumbria Observatory)



Date: 2019 Source: ONS

- 1.3 In Cumbria, 375,523 people (75%), live in rural areas. The urban population (defined as towns / cities of 10,000 or more people) is 124,335 (25%). Nationally 76.4% of the population (40,511,608 people) live in urban areas.
- 1.4 The Index of Multiple Deprivation (IMD) 2019 is the official measure of relative deprivation for small areas (or neighbourhoods) in England. The IMD ranks every small area (Lower Super Output Area) in England from 1 (most deprived) to 32,844 (least deprived). For larger areas the proportion of LSOAs within the area that lie within each decile is identified. Decile 1 represents the most deprived 10% of LSOAs in England while Decile 10 shows the least deprived 10% of LSOAs.
- 1.5 The IMD combines information from seven domains to produce an overall relative measure of deprivation. The domains are Income, Employment, Education, Skills and Training, Health and Disability, Crime, Barriers to Housing Services and Living Environment. Each domain is given a weighting and is based on a basket of indicators.
- 1.6 In Cumbria the balance is tilted towards deprivation (deciles 1 to 5 account for 52.6% of the total).

Figure 2 Index of Multiple Deprivation in Cumbria



Date: 2019 Source: DCLG

- 1.7 In 2017, the fraction of mortality attributable to fine particulate pollution for the population aged 30 or over in Cumbria is 3.1%. In the same age cohort the equivalent figures for the North West Region (2018) and England (2016) was 4.3% and 5.3% respectively (source Public Health England)
- 1.8 In 2016, the average journey time to reach eight key services by car in Cumbria was 11.7 minutes; by public transport or walking, 25.9 minutes; and by bicycle, 20.5 minutes (Source: Public Health England, 2016 via Cumbria Observatory).

- 1.9 The Department for Transport have calculated that 3.84 billion vehicle miles were travelled on roads in Cumbria in 2018³.
- 1.10 The percentage of cars or vans per household in Cumbria is significantly more than the North West and England average (see Table 2).

Table 2: Percentage of Cars per Household

Car or van	Cumbria		North West		England	
	Count	%	Count	%	Count	%
1	99,389	44.8	1,279,984	42.5	9,301,776	42.2
2	57,798	26.0	707,398	23.5	5,441,593	24.7
3	12,825	5.8	138,371	4.6	1,203,865	5.5
4 or more	4,452	2	42,129	1.4	424,883	5.5
No car or van	47,578	21.4	841,667	28.0	5,691,251	22.1

Source ONS Census 2011 (via Cumbria Observatory)

Recreation

- 1.11 Cumbria includes the Lake District National Park and the North Western parts of the Yorkshire Dales National Park. Cumbria's countryside access network is a significant asset to the county, comprising public rights of ways, National Trails, cycle trails (including parts of the National Cycle Network), areas of common land, together with nature reserves and green spaces for informal recreation. These areas not only attract visitors to the area, but also provide opportunities for healthier lifestyles for those living and working in Cumbria.

Population: likely evolution without CTIP

- 1.12 Road transport is expected to increase in the County and the reliance on cars as the main mode of transport for commuters will continue. Appropriate spatial planning can help reduce the population's need for journeys.

³ <https://roadtraffic.dft.gov.uk/local-authorities/77>

1.13 Ongoing development for new housing will increase settlement size, which will exert pressure on floodplains and transport infrastructure. Increasing development for housing and for other uses will place additional pressure on open spaces, green infrastructure and recreational land, potentially reducing outdoor recreational activity, with potential impacts on health.

2. HEALTH

2.1 Issues related to low levels of physical activity and obesity are likely to reduce the use of alternative modes of transport rather than the car, compounding traffic growth.

2.2 Poor levels of maintenance of footways, public footpaths and rights of way would compound the issue would be likely to be a disincentive to use.

2.3 The Department for Transport (DfT STATS19) records the number of road casualties killed or seriously injured in the Cumbria police area. The statistics are shown in Table 4 below:

	Pedestrians	Cyclists	Motorcyclists	Car occupants	Others	Total
2005	61 (14%)	24 (6%)	79 (19%)	237 (56%)	26 (6%)	427 (100%)
2006	46 (13%)	21 (6%)	71 (21%)	183 (53%)	23 (7%)	344 (100%)
2007	41 (13%)	19 (6%)	72 (23%)	168 (53%)	19 (6%)	319 (100%)
2008	31 (11%)	13 (5%)	75 (27%)	143 (52%)	14 (5%)	276 (100%)
2009	44 (18%)	18 (7%)	74 (30%)	103 (42%)	8 (3%)	247 (100%)
2010	37 (16%)	22 (9%)	58 (25%)	89 (38%)	27 (12%)	233 (100%)
2011	38 (15%)	18 (7%)	49 (20%)	132 (53%)	12 (5%)	249 (100%)
2012	29 (15%)	16 (8%)	56 (29%)	88 (45%)	7 (4%)	196 (100%)

2013	41 (17%)	14 (6%)	58 (24%)	105 (44%)	21 (9%)	239 (100%)
2014	40 (17%)	19 (8%)	46 (20%)	110 (48%)	16 (7%)	231 (100%)
2015	41 (18%)	14 (6%)	53 (23%)	113 (49%)	10 (4%)	231 (100%)
2016	68 (23%)	30 (10%)	66 (22%)	119 (40%)	18 (6%)	301 (100%)
2017	40 (12%)	45 (14%)	60 (19%)	160 (50%)	16 (5%)	321 (100%)
2018	78 (23%)	43 (13%)	47 (14%)	148 (43%)	28 (8%)	344 (100%)

Table 5 shows the Cumbria reported road casualties killed.

Table 5 Cumbria Reported Road Casualties Killed						
	Pedestrians	Cyclists	Motorcyclists	Car occupants	Others	Total
2005	4 (9%)	1 (2%)	2 (4%)	37 (82%)	1 (2%)	45 (100%)
2006	6 (10%)	2 (3%)	13 (22%)	33 (56%)	5 (8%)	59 (100%)
2007	7 (16%)	3 (7%)	11 (24%)	23 (51%)	1 (2%)	45 (100%)
2008	4 (14%)	0	4 (14%)	20 (69%)	1 (3%)	29 (100%)
2009	7 (30%)	2 (9%)	3 (13%)	10 (43%)	1 (4%)	23 (100%)
2010	6 (20%)	3 (10%)	3 (10%)	15 (50%)	3 (10%)	30 (100%)
2011	2 (7%)	2 (7%)	8 (27%)	16 (53%)	2 (7%)	30 (100%)
2012	4 (13%)	2 (7%)	9 (30%)	14 (47%)	1 (3%)	30 (100%)

2013	4 (15%)	0	4 (15%)	14 (52%)	5 (19%)	27 (100%)
2014	2 (8%)	1 (4%)	5 (20%)	15 (60%)	2 (8%)	25 (100%)
2015	4 (14%)	0	7 (24%)	15 (52%)	3 (10%)	29 (100%)
2016	9 (31%)	1 (3%)	2 (7%)	17 (59%)	0	29 (100%)
2017	2 (7%)	3 (11%)	3 (11%)	17 (61%)	3 (11%)	28 (100%)
2018	5 (20%)	2 (8%)	3 (12%)	14 (56%)	1 (4%)	25 (100%)

- 2.4 Research by the Centre for Public Health at John Moore’s University undertaken in 2015 – Avoidable Mortality in Cumbria: A Review of 73 Fatal Road Traffic Collisions⁴ – concluded that “There appear to be three main road user groups involved in fatal Road Traffic Collisions in Cumbria: motorcyclists, younger drivers (aged 17-25), and older drivers (aged 65+). As expected, there are different issues facing the younger drivers and motorcyclists compared to older drivers. In accordance with existing literature, the younger drivers and motorcyclists involved in fatal RTCs were found to engage in ‘risky’ driving behaviour (namely speed and impairment), whilst older drivers are involved in RTCs where observational or misjudgement errors are contributory factors”.
- 2.5 A study combining UK and EU emissions data with models of weather and the ways in which chemicals disperse suggested that ‘pollution from overall UK combustion emissions causes approximately 13,000 premature deaths a year, with road transport being the biggest source’. A further 6,000 deaths are estimated to be due to European Union emissions produced outside the UK (NHS 2012). Despite considerable improvements in air quality in the last few decades, air pollution from road transport (in addition to combustion sources) continues to pose respiratory and inflammatory health risks to people. Elevated levels and/or long-term exposure to air pollution can lead to a range of serious symptoms affecting human health.
- 2.6 Issues related to low levels of physical activity and obesity are likely to reduce the use of alternative modes of transport rather than the car, compounding traffic growth.
- 2.7 Poor levels of maintenance of footways, public footpaths and rights of way would compound the issue would be likely to be a disincentive to use.

⁴ <https://cumbria.gov.uk/elibrary/Content/Internet/536/671/4674/5359/5360/42135155438.PDF>

Health Issues: likely evolution without CTIP

- 2.8 Health issues (rising obesity, lack of exercise and unhealthy lifestyles) will be difficult to address without a clear strategy to promote walking and cycling and hence healthy lifestyles.
- 2.9 Without a clear approach to improving the road network, safety issues will be harder to address across the county.
- 2.10 Need for well-maintained footpaths and cycle routes to avoid safety hazards that would discourage use.
- 2.11 Ongoing development for new housing will increase settlement size, which will exert pressure on the floodplain and transport infrastructure. Increasing development within the County will place additional pressure on open spaces, green infrastructure and recreational land.

3. NOISE

- 3.1 The Noise Policy Statement for England 2010⁵ paragraph 2.14 states: 'It is recognised that noise exposure can cause annoyance and sleep disturbance both of which impact on quality of life. It is also agreed by many experts that annoyance and sleep disturbance can give rise to adverse health effects. The distinction that has been made between 'quality of life' effects and 'health' effects recognises that there is emerging evidence that long-term exposure to some types of transport noise can additionally cause an increased risk of direct health effects. The Government intends to keep research on the health effects of long-term exposure to noise under review in accordance with the principles of the NPSE.'
- 3.2 Cumbria is a predominantly rural county. A report from Transport for Quality of Life to The Noise Association (2008) looked at the noise impacts from roads in rural areas. It identified that:
 - Even in lightly populated rural areas disturbance from traffic noise has become problematic, in places severe
 - Traffic noise causes disturbance at distance from roads and rural traffic noise problems are not restricted to major roads
 - Noise-affected scenic locations are deliberately avoided by some people, visited less by others, and are felt to be a degraded experience for a proportion of those that do visit
 - Increased traffic volume and speed has led to more noise nuisance in country areas
 - Increased traffic speed has increased rural noise disturbance
 - Noise disturbance has risen as a result of an increase in particularly noisy types of traffic: HGVs and other large vehicles, motorcycles, 'and off-road vehicles.

⁵ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69533/pb13750-noise-policy.pdf

- 3.3 Reducing noise from transport is a complex issue and requires a range of measures to be applied. The measures required may also vary depending on the ambient noise characteristics of individual localities, which are particularly different in rural areas compared to urban areas, and depending on the mode of transport. Measures that can assist in reducing noise impacts include:
- Integrated and comprehensive approach to land use and transport planning and design to consider and address the impacts noise ;
 - Reducing the use of the higher noise emitting modes of transport such a private vehicles including through increasing the number and proportion of trips made by mass transit and active travel modes;
 - Technological improvements to vehicles and other transport modes including to aerodynamics, low noise tyres, train wheels and brake-blocks, and quieter engines;
 - Improvements to infrastructure, such as low noise road surfaces and rail tracks;
 - Traffic management techniques, such as traffic calming, controlling the speed of road vehicles, and low noise operational procedures for aircraft;
 - Restricting access for the noisiest vehicles (e.g. HGVs into urban residential areas, particularly at night); and
 - Noise barriers and improved soundproofing of dwellings (although only as a last resort because these measures are rarely cost-effective).
- 3.4 CTIP may include schemes that will improve conditions for residents currently affected by traffic noise, for example by constructing a new highway. Conversely, a bypass may worsen amenity for communities not previously impacted by road noise. Noise is usually a local issue and can often be mitigated with careful design of infrastructure and abatement technologies including road surface and acoustic barriers. The resulting impact of a scheme overall would be a net gain.

Noise issues likely evolution without CTIP

- 3.5 The increasing pressure for development and new infrastructure is likely to result in continued traffic growth, which is likely to result in greater proportions of the population being disturbed by transport related noise.
- 3.6 However, noise is usually a local issue and can often be mitigated with careful design of infrastructure and abatement technologies including road surface and acoustic barriers.
- 3.7 The overall evolution without the CTIP is therefore uncertain.

4. AIR QUALITY

- 4.1 Despite considerable improvements in air quality in the last few decades, air pollution from road transport (in addition to combustion sources) continues to pose respiratory and inflammatory health risks to people. Elevated levels and/or long-term exposure to air pollution can lead to a range of serious symptoms affecting human health.
- 4.2 Air quality across Cumbria is generally good but there are areas in the County where elevated levels of pollutants have been detected. Local Air Quality Management within the County is the responsibility of each district council who are required to provide routine reports on air quality in each district in relation to air quality standards and objectives, as defined in the UK Air Quality Strategy.
- 4.3 There are currently 7 declared Air Quality Management Areas (AQMAs) in Cumbria: six in Carlisle and one in South Lakeland (all for Nitrogen Dioxide). There are no AQMAs in Allerdale, Barrow, Copeland and Eden.
- 4.4 To date, the trend for a reduction in emissions per vehicle as the vehicle stock is replaced by newer vehicles meeting higher emissions standards has not taken place as expected. The relative growth in numbers of newer diesel vehicles with emission control technology, has given rise to higher direct emissions of nitrogen dioxide into vehicle exhausts. The result has been detected as some increases in localised pollution levels in urban centres and a failure of pollution levels to decrease at the rate predicted.
- 4.5 The Environment Bill 2020 will introduce changes to the Environment Act 1995 that seek to continue reducing pollution and emissions from a variety of sources including transport. The changes will introduce pollution / emission reduction targets (in line with the commitments in the Clean Air Strategy) and strengthen the Local Air Quality Management Framework alongside the introduction of powers for the Government to compel vehicle manufacturers to recall vehicles that do not comply with the environmental standards they are required to meet. The Government are also introducing additional measures including ending the sale of new petrol and diesel cars by 2030 and introducing a requirement that from 2035 all new cars and vans must be zero emissions at the tailpipe, supported by significant investment including in cycling and walking.

Air Quality issues likely evolution without CTIP

- 4.6 While the vehicle fleet in general is getting cleaner with improved emissions standards, the rural nature of the County, combined with projected growth, is likely to lead to increased traffic volumes and greater traffic congestion unless strategic action is undertaken.
- 4.7 This in turn will contribute to high levels of emissions and could lead to more AQMAs being declared as the increases in traffic and congestion outweigh improvements in emissions standards.

- 4.8 In the medium to longer term, the changes introduced through the Environment Bill and other associated Government measures should lead to reduced emissions and improved air quality.

5. CLIMATIC FACTORS:

Greenhouse gas emissions

- 5.1 National data⁶ shows an overall fall of 43% in greenhouse gas emissions in the UK and an overall fall in carbon dioxide emission of 39% between 1990 and 2018. Over the same period UK emissions from road transport have decreased by 3%.
- 5.2 In Cumbria total carbon dioxide emissions fell from 4,844,000 tonnes in 2005 to 3,274,000 tonnes in 2018. This represents an annual change of minus 30,100 tonnes (minus 0.91%) and a drop of 1,570,000 tonnes since the 2005 baseline year (a reduction of 32.41%)
- 5.3 In 2012, driving accounted for the largest amount of carbon dioxide emissions in Cumbria (1,680,398 tonnes) with other transport (excluding personal flights) contributing a further 393,297 tonnes)⁷ see:
- 5.4 The Prime Minister announced on 18 November 2020 that new cars and vans powered wholly by petrol and diesel will not be sold in the UK from 2030. The Prime Minister described the measure as a "green industrial revolution" to tackle climate change and create jobs in industries such as nuclear energy.

Climate Change

- 5.5 It is now accepted that global warming is taking place, with global mean air temperatures having increased by 0.3 to 0.6°C during the 20th century and having risen at about 0.2°C/decade over the past 25 years (UKCIP, 2009).
- 5.6 The Intergovernmental Panel on Climate Change report (IPCC 2013) indicates that more than half the increase in global surface temperatures from 1951 to 2010 is attributable to human activities, which underlies the role of fossil fuel burning in climate change. The local pollution picture reflects a complex mixture of sources and distribution of pollutants. They contribute not only to local air pollution impacts, but also to increasing ground levels of ozone, adding to local and global climate impacts.
- 5.7 In the UK the 20 warmest years on record have been within the last 22 years. Cumbria has been hit by three "once in a generation" floods within the last 20 years. Extreme weather events are increasing in frequency and severity. The changing climate is likely to continue to cause more flooding, coastal erosion and impacts on human health. Damage to vital infrastructure could become more common.

⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/863325/2018-final-emissions-statistics-summary.pdf

⁷ <https://www.cumbria.gov.uk/eLibrary/Content/Internet/538/755/929/17716/17717/41333112320.pdf>

- 5.8 The County Council may find it harder to deliver key services to communities affecting the most disadvantaged and vulnerable disproportionately. The County Council will need to plan for this.
- 5.9 The conditions for agriculture could change meaning that farming becomes unviable. Rapid species loss could occur as natural ecosystems struggle to cope with the impacts of climate change. More people could be living in fuel poverty as utility prices continue to increase.

Climatic issues likely evolution without CTIP

- 5.10 Without action, the contribution of transport to CO₂ emissions (and associated climate change) will continue to rise. However, some proposals in Cumbria will help to reduce carbon and nitrogen emissions such as Network Rail's proposals for improvements to the Cumbria Coastal Line.
- 5.11 Extreme weather events such as droughts and flooding are predicted to become more frequent with increasing demands on maintenance of transport infrastructure such as repairs to structures, reinforcements to embankments and additional drainage requirements.

6. BIODIVERSITY, FLORA AND FAUNA

- 6.1 There are 278 Sites of Special Scientific Interest (SSSI) in Cumbria, of which 178 are designated for their biological interest. Many of these correspond to upland habitats but the lowlands of Cumbria support numerous mosses that are designated as SSSIs. Many of these and other lowland SSSIs are also Special Areas of Conservation (SACs)

<u>Condition of SSSIs in Cumbria in April 2018, January 2020 and July 2020</u>	% meeting area of favourable or unfavourable recovering	Favourable	Unfavourable - Recovering	Unfavourable - No change	Unfavourable - Declining	Partially destroyed	Destroyed	Not Assessed
Area (ha) in Cumbria (04.04.2018)	129,736	55,347	74,388	6,669	2,400	9.3	31	74
% of Cumbrian SSSI area (04.04.2018)	93.39	39.84	53.55	4.8	1.73	0.01	0.02	0.05
Area (ha) in Cumbria (15.01.2020)	126,243	55,294	70,948	10,273	2,317	9.3	31	57
% of Cumbrian SSSI area (15.01.2020)	90.87	39.8	51.07	7.39	1.67	0.01	0.02	0.04
Area (ha) in Cumbria (08.07.2020)	126,174	55,250	70,925	10,211	2,447	9.3	31	57

<u>Condition of SSSIs in Cumbria in April 2018, January 2020 and July 2020</u>	<u>% meeting area of favourable or unfavourable recovering</u>	<u>Favourable</u>	<u>Unfavourable - Recovering</u>	<u>Unfavourable - No change</u>	<u>Unfavourable - Declining</u>	<u>Partially destroyed</u>	<u>Destroyed</u>	<u>Not Assessed</u>
% of Cumbrian SSSI area (08.07.2020)	90.82	39.77	51.05	7.35	1.76	0.01	0.02	0.04

- 6.2 Between April 2018 and July 2020, there has been a slight reduction in SSSI units described as ‘Favourable’ or ‘Unfavourable - Recovering’; a more noticeable increase in SSSI units described as ‘Unfavourable – no change’ and some fluctuation in those described as ‘Unfavourable- declining’. These changes are most likely evident due to the increase in amount of SSSI units that have been surveyed since 2014. Positively, there is no change to the number of units ‘Destroyed’ or ‘Partially destroyed’.
- 6.3 Other designations include 25 National Nature Reserves (NNRs) and over 1,600 County Wildlife Sites (CWS).
- 6.4 The conditions for agriculture could change meaning that farming becomes unviable. Rapid species loss could occur as natural ecosystems struggle to cope with the impacts of climate change.
- 6.5 A Habitat Regulations Assessment (HRA) Screening Report is being prepared for CTIP to fulfil the requirements of the Conservation of Habitats and Species Regulations 2012 (as amended). The HRA Screening Report is included in a separate document.
- 6.6 The Environment Bill published by DEFRA on 30 January 2020 supports delivery of the government’s 25 Year Environment Plan (January 2018). This Bill proposes introduction of a mandatory requirement for biodiversity net gain in the planning system. The biodiversity net gain objective is effectively that all development proposals must enhance the biodiversity value of the on-site habitat by at least 10%.
- 6.7 The Bill also introduces provisions requiring the development of Local Nature Recovery Strategies across England. A Local Nature Recovery Strategy must describe the current levels of biodiversity across the area; set out opportunities and priorities for recovering and enhancing biodiversity and include measures for addressing these priorities.
- 6.8 The Environment Bill had its second reading in the House of Lords on 7 June 2021.

Biodiversity, flora and fauna without CTIP

- 6.9 Trends in biodiversity can be due to a wide variety of factors, including climate change and land management activities. Climate change is likely to affect all habitats, for example through changes in flood risk from all sources, changes in the frequency of flooding or flow volumes to water dependant habitats. The spread of invasive species is also likely to continue.
- 6.10 The continued pressure for development and new infrastructure may result in further loss and fragmentation of habitats and associated species (including an increasing number of animal road kills).
- 6.11 Biodiversity net gain follows on from the Government's aim in its 25 Year Environment Plan to “leave the environment in a better state than we found it”. Broadly, “biodiversity net gain”, as set out in the Environment Bill, requires development to deliver at least a 10 per cent improvement in “biodiversity value”
- 6.12 If there was no co-ordinated transport plan at a strategic level it is possible that new transport plan schemes or plans could have an adverse impact on wildlife at a local and strategic level. Having a co-ordinated strategic transport plan could assist in the delivery of a Local Nature Recovery Strategy for the County by identifying potential ‘wildlife corridors’ (e.g. highway verges, cycleways and footpaths) that could be used to link habitats together as part of a nature recovery network.

7. GEOLOGY AND SOILS

- 7.1 Seventy sites in Cumbria are listed for purely for their geological interest and a further 38 are listed for their geological and biological interest. The total farmed area in the County is reported to be 508,000 hectares with hill sheep farms predominating in the upland area.
- 7.2 Each of the six district councils are obligated by law to keep a contaminated land register.

Geology and Soils without CTIP

- 7.3 It is likely that soil erosion in the county will continue due to surface water flash flooding and other causes. Compaction and sealing will also continue to occur, for example through an increase in developed areas and impermeable surfaces.
- 7.4 The continued pressure for development and new infrastructure is likely to result in further greenfield development and loss of farmland.
- 7.5 Increased traffic volumes are likely to lead to greater levels of diffused pollution from surface water run-off on older roads, causing further pollution to adjacent soil resources. However, the incorporation of green infrastructure in new transport schemes and development, such as sustainable drainage systems, will help mitigate this issue.

8. WATER

- 8.1 The EU Water Framework Directive (2000/60/EC) (WFD) came into force in 2000 and was transposed into law in England and Wales by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003. It combines water quantity and water quality issues in an integrated approach to the management of all water bodies at the river basin level (RBMPs). Water bodies include rivers, lakes, estuaries (“transitional” water bodies), coastal waters and ground waters. The WFD drives the existing licensing and consenting framework in England.
- 8.2 The RBMPs will be used to guide the assessment of the implications of the proposed CTIP on the water bodies that might be affected by it.
- 8.3 The WFD requires that all natural water bodies achieve good chemical status and good ecological status (GES), and Good Ecological Potential (GEP) for artificial and heavily modified water bodies (HMWB i.e. physical alterations by human activity that substantially change its hydro-geomorphological character), by set deadlines ranging from 2015 to 2027 dependent on the specific issue.
- 8.4 The WFD sets out a number of environmental objectives against which plans and projects should be assessed, as follows:
- WFD1 - No changes affecting high status sites;
 - WFD2 - No changes that will cause failure to meet surface water good ecological status / potential or that will result in a deterioration of surface water ecological status / potential;
 - WFD3 - No changes which will permanently prevent or compromise the environmental objectives being met in other water bodies;
 - WFD4 - No changes that will cause failure to meet good groundwater status or result in a deterioration in groundwater status.
- 8.5 Transport infrastructure can have direct and indirect effects on water quality, flood risk and the Water Framework Directive (WFD) objectives. The SEA should include a preliminary WFD assessment.
- 8.6 Any activity which has the potential to impact on a water body’s ecological status or potential (either directly impacting biological elements, or changing physico-chemical, morphological, hydrological or chemical conditions) needs to be assessed against the objectives of the WFD.
- 8.7 An assessment of the proposed CTIP will be undertaken at a high level to determine whether it might result in deterioration in the status of any water body or impede any water body from reaching future GES or GEP, as appropriate.
- 8.8 As noted previously, Cumbria has experienced three “once in a generation” floods within the last 20 years.

Water: Likely evolution of the baseline without CTIP

8.9 The Environment Agency is aiming to improve water quality to ensure water bodies in Cumbria achieve GES/GEP in line with the WFD and maintain this status into future years. The programme of measures required to achieve GES/GEP under the WFD by 2015 will drive improvements in the water environment. Additionally, the UK Climate Change Risk Assessment Evidence Report for the water sector (2012) shows that climate change is likely to cause the following impacts on water nationally:

- River flows - By the 2080s, reductions in summer river flows may be significant across the UK;
- Water supply - By the 2080s almost the whole UK population may be living in areas affected by a supply demand deficit unless significant action is taken. By the 2050s, there may be a significant decrease in the number of rivers where sustainable water abstraction is possible and this situation may grow more severe by the 2080s.

8.10 Water resources within Cumbria are under increasing pressure from increased demand for wastewater treatment and drinking water. Winter flooding and the risk of drought in summers is predicted to increase as a result of the effects of climate change. These changes could affect water supply or treatment facilities, resulting in loss of service or contamination of water supplies.

8.11 Increasing traffic volumes are likely to lead to greater levels of diffused pollution from surface-water run-off on older roads and increasing pollution of adjacent water bodies.

9. MATERIAL ASSETS

9.1 The term “material assets” is not defined in the SEA Directive. For the purposes of this SEA, the term is used in relation to the following receptors:

- critical infrastructure,
- mineral resources, and
- waste management

Critical Infrastructure

- 9.2 These are assets that are essential for the functioning of a society and economy and include the road and rail network, energy (e.g. power stations, sub-stations) and critical services (e.g. public transport system, emergency services, schools, hospitals, and cemeteries). Traffic on Cumbria's roads is steadily increasing: 5,047million vehicle kilometres in 2011 to 6,501million vehicle kilometres in 2019 (DfT Statistics Table TRA8904 September 2020). Carlisle and Penrith are becoming increasingly important as transport hubs. The County also supports major rail infrastructure including the West Coast Main Line and branch railway lines.
- 9.3 The UK Climate Change Risk Assessment (Defra 2012) shows that flooding as a result of climate change is likely to pose an increasing threat to critical infrastructure. This includes increased risk to transport networks, as well as energy supplies, hospital and schools. There is a high risk of confidence in the 'significant likelihood of flooding' risk posed to roads and a medium level of confidence in relation to power stations, hospitals and schools.

Mineral resources

- 9.4 The transport sector uses mineral resources in the construction of new infrastructure as well as fuels for vehicles. Fossil fuels are non-renewable and subject to price fluctuations on the global market due to changes in supply and demand. Dependence on car use has high resource requirements since significant land is required to accommodate traffic growth while continued capacity improvements are required on the transport network such as road widening and the provision of parking infrastructure.
- 9.5 Increased uptake of passenger transport and walking and cycling has lower overall demands on resources per person.

Waste management

- 9.6 The transport sector is both a producer and potential consumer of waste. Development of new roads and infrastructure will generate additional waste through excavation of material (inert waste) that will need to be disposed of in accordance with the waste management hierarchy. Its use in land recovery/restoration schemes is preferable to landfill. Inert waste can also be recycled to produce an alternative aggregate which in turn reduces pressure on reserves of primary aggregate. This should be encouraged and can be addressed in the Waste Management Plans that will be required as part of the planning application process for individual schemes.
- 9.7 There is also potential for recycled aggregates to be used in the construction of roads and infrastructure. For example, Cumbria County Council was the first authority in England to incorporate plastic-based material made from recycled waste into the standard asphalt used in resurfacing.

Material Assets: Likely evolution of the baseline without CTIP

- 9.8 Without a strategic plan to stem road traffic, congestion and pollution, traffic numbers would be likely to rise at a faster rate than the current rate of increase. The reliance on Cumbria's road and railway network will continue with increased population growth.
- 9.9 The condition of many roads and footpaths is likely to deteriorate. Increasing occurrence of extreme weather events as a result of climate change is likely to increase the need for repairs to structures.
- 9.10 Renewable energy is likely to form a greater part of the county's energy mix as technology advances and policies to promote their uptake mature.
- 9.11 The volume of waste generated is likely to increase and place extra demand on the county's roads, and potentially on waste management capacity.

10. CULTURAL, ARCHITECTURAL AND ARCHAEOLOGICAL HERITAGE

- 10.1 Cumbria has a rich archaeological resource, with 2 UNESCO World Heritage Sites, 23 Registered Parks and Gardens, nearly 7,615 listed buildings, 125 Conservation Areas, 1 Registered Battlefield and 867 Scheduled Monuments.
- 10.2 CTIP will need to consider how best to accommodate the proposed changes and proposed economic growth in the county while sustaining the significance and character of the heritage assets.

Cultural, Architectural and Archaeological Heritage: Likely evolution of the baseline without CTIP

- 10.3 The historic environment is likely to remain an important economic, social and cultural feature of the county and the management and restoration of heritage assets is likely to continue.
- 10.4 However, increasing traffic levels will impact upon the amenity and quality of the archaeological sensitivity of streetscapes and the cultural environment.
- 10.5 Air and noise pollution, physical or chemical erosion and pressures from an increasing population and important tourist industry will continue to increase pressure on Cumbria's cultural heritage.
- 10.6 In Cumbria the archaeological and architectural assets and their settings will continue to be threatened by development pressures as well as inadequate management of features, landscapes or nearby resources, neglect and inappropriate development within or near historic features or landscapes

11. LANDSCAPE

- 11.1 Cumbria is the second largest county, by area, in England. It includes a number of designated landscapes. The Lake District National Park (also a World Heritage Site) is entirely within Cumbria and the Yorkshire Dales National Park extends into the county in parts of Eden and South Lakeland. Both the National Park boundaries were extended in Cumbria in August 2016.
- 11.2 There are three Areas of Outstanding Natural Beauty (AONB) within the county – Solway Coast (within parts of Allerdale and Carlisle districts); North Pennines (within parts of Eden and Carlisle districts, also extending across the border into Northumberland and County Durham) and Arnside and Silverdale (within part of South Lakeland district and extending across into Lancashire).
- 11.3 The County is divided up into 13 Landscape Character Areas⁸: 1. Bay and Estuary; 2. Coastal Margins; 3 Coastal Limestone; 4 Coastal Sandstones; 5 Lowland; 6 Intermediate Farmland; & Drumlins; 8 Main Valleys; 9 Intermediate Moorland and Plateau; 10 Sandstone Ridge; 11 Upland Fringes; 12 Higher Limestone; and 13 Fells and Scarps. Each category has sub-divisions.
- 11.4 The value and sensitivity of these landscape character types in Cumbria varies and their capacity to accommodate new development and changes associated with the CTIP will therefore require further consideration.

Landscape: Likely evolution of the baseline without CTIP

- 11.5 It is likely that increasing development will increase pressure viewpoints around Cumbria.
- 11.6 There is potential for development pressure to detract from the quality of some of the county's landscapes. Light pollution from development will continue.
- 11.7 Increasing traffic volumes will increase noise disturbance in the countryside and the loss of tranquillity. Increases in traffic will cause more vehicles to use unsuitable rural roads.

⁸ <https://www.cumbria.gov.uk/planning-environment/countryside/countryside-landscape/land/landcharacter.asp>

12. RURAL AND VISITOR ECONOMY

12.1 Cumbria Local Enterprise Partnership's Rural and Visitor Economy Growth Plan aims to tap into the vibrancy of rural communities and ensure market growth in areas such as the food and drink sector and tourism excellence in outdoor activities, events, festivals, attractions and accommodation. It helps to underpin future investment by both the public and private sectors, with identified, specific opportunities for growth and a list of stated priorities for both the rural and visitor economies. The priorities are:

Rural economy growth priorities

- Maintaining and enhancing the special qualities of Cumbria's rural areas.
- Capitalising on Cumbria's rural strengths, including exploiting our brand; adding value to under-exploited rural resources; deepening existing rural supply chains / clusters.
- Building a location for future businesses.
- Exploiting major new project opportunities for local rural supply chains.

Visitor economy growth priorities

- Growing Cumbria's international visitor numbers.
- Enhancing Cumbria's adventure pursuits, cultural and heritage offer.
- Capitalising on opportunities from business tourism.
- Continued investment in and promotion of existing attractions, accommodation and infrastructure.
- Improving access to digital information and the ability to get around Cumbria.

Rural and Visitor Economy: Likely evolution of the baseline without CTIP

12.2 It is likely that the potential of the rural and visitor economies would not be fully realised due to sub-optimal transport infrastructure.

Appendix C: Cumulative impacts of CTIP, Local Plans and other strategies

1. CTIP cannot be developed in isolation. It must take account of national, regional and local plan policies and other relevant strategies.
2. The main drivers for change are at the national level. The Clean Air Strategy was published in January 2019. It sets out the comprehensive action required across all parts of government to meet legally binding targets to reduce emissions of five key pollutants by 2020 and 2030, and secure significant public health benefits.
3. The Strategy also made a commitment to bring forward primary legislation on clean air, as outlined in the delayed Environment Bill (the Environment Bill had its second reading in the House of Lords on 7 June 2021). It is anticipated that the Environment Bill, when it is enacted will have implications for transport. CTIP will need to take account of any relevant implications arising from the Act.
4. The Department for Transport's Transport Decarbonisation Plan was published in July 2021. This sets out their roadmap to the decarbonisation of transport networks by 2050. In doing this it considers individual modes but also the role of new technology and innovation as an enabler of change.
5. The Transport for the North (TfN) Decarbonisation Strategy proposes the achievement of a regional near-zero carbon surface transport network by 2045 (ahead of the government's target).

Local Plans and related documents

Allerdale

6. Four of the six key transport corridors in CTIP cover Allerdale:
 - Corridor 1: Faces challenges surrounding a declining working age population and lower levels of skills. The districts of Allerdale, Barrow and Copeland have an above average rate of youth unemployment with the corridor having significant areas and pockets of high deprivation. There is a clear need for increases in capacity and reliability on both the Cumbrian Coast Line and the A595 to support inclusive growth, with proposed schemes including improvements at Bothel and at Grizebeck.
 - Corridor 3: Focuses on the city of Carlisle linking into Scotland, the North East and to West Cumbria. The proposed improvements to the A595 at Bothel will support links between Carlisle and West Cumbria.

- Corridor 5: covers key tourism destinations within the Lake District National Park, including Keswick with proposed improvements on A591. Most visitors to Cumbria arrive by car through corridors such as the A66 and the A591. The corridor requires improved parking and road infrastructure to accommodate the pressures associated with peak visitor numbers. To achieve this, a strategic and integrated approach to demand management is important; both to support the sustainable growth of the visitor economy, and to allow its accessibility to form a core component of its visitor economy offer.
 - Corridor 6: Focuses on the area between West Cumbria to the border with North Yorkshire. The corridor includes Workington, Cockermouth and Keswick all of which are important service centres.
7. The Allerdale Local Plan (Part 1) was adopted in July 2014. It was prepared in the context of the Third Cumbria Local Transport Plan (2011 – 2026). The Local Plan (Part 1) recognises “it is vital that the Allerdale Local Plan and the Local Transport Plan are consistent and support each other in their aims and objectives.”
8. The Allerdale Local Plan (Part 2) Infrastructure Delivery Plan (September 2018) recognises that the key priorities of the Cumbria Infrastructure Plan in Allerdale are: Cumbrian Coastal Railway enhancements; A595 corridor enhancements; Port of Workington improvements; Connecting Cumbria Phase 3: 4G and Broadband Connectivity; and A66 road enhancements.
9. There has been close cooperation between Cumbria County Council and Allerdale Borough Council on understanding and mitigating the impacts of development arising from the Allerdale Local Plan. The two councils commissioned WSP consultants to undertake a Transport Improvements Study to support the Allerdale Local Plan proposals for the period up to 2029. The study consisted of three linked elements:
- Identification of the impact of growth, as set out in the Local Plan; to include consideration of the current capacity problems and physical constraints.
 - Identification of a range of potential sustainable transport improvements, which could be delivered in Allerdale, with the aim of encouraging modal shift from the car to other more sustainable modes, reducing the impact of development-related traffic on the road network.
 - Identification of potential highway improvements, at locations agreed with Cumbria County Council and Allerdale Borough Council, with the aim of improving operation of the network at key traffic pinch points.
10. These three elements together are intended to mitigate the impact of additional trip demand, associated with the development growth identified in the Local Plan. The Transport Improvements Study was completed in March 2018.

11. The County Council has worked closely with Allerdale BC by commissioning the Transport Improvements Study, which influenced the development of the Infrastructure Delivery Plan for the Local Plan. It has also working closely with Highways England in respect of the A66 and A595 and Network Rail in respect of improvements to the Cumbria Coast Line.

Cumulative Impacts of CTIP, Allerdale Local Plan and Other Strategies

12. It is considered that there is a joined-up approach to the planned provision of transport infrastructure in CTIP, Local Plans and other strategies in Allerdale by the County Council, the Borough Council, Highways England and Network Rail.

Barrow

13. Two of the six transport corridors in CTIP cover Barrow:

- Corridor 1: Faces challenges surrounding a declining working age population and lower levels of skills. The districts of Barrow, Allerdale, and Copeland, have an above average rate of youth unemployment with the corridor having significant areas and pockets of high deprivation. There is a clear need for increases in capacity and reliability on both the A595 to support inclusive growth, with proposed schemes including improvements at Grizebeck and at Bothel, and the Cumbrian Coast Line.
- Corridor 2: Covers the area from Millom in the west to the Lancashire border in the east. The corridor is dominated by the Furness Peninsula. Key towns include Barrow-in-Furness, Dalton-in-Furness, Ulverston and Grange-over-Sands. Barrow-in-Furness plays a strategically important role within South Cumbria hosting retail, leisure, health, natural and educational assets. Barrow-in-Furness and Ulverston host major advanced manufacturing and energy assets including operation and maintenance facilities for Irish Sea windfarms, the Spirit Energy operated gas terminal, Siemens and BAE Systems. These sectors support higher levels of productivity. Barrow has the most productive economy in Cumbria with the highest level of GVA per head of population in Cumbria, and a much higher level of GVA per job filled than elsewhere in Cumbria at over 25% above the county average.

14. At the strategic level, the Cumbria Infrastructure Plan prioritises the infrastructure that is needed to facilitate economic growth and maximise opportunities from large scale projects over the next fifteen years. The Local Plan at paragraph 5.1.2 states that “The Infrastructure Plan supports the delivery of key infrastructure improvements to meet the priorities set out in the Cumbria Strategic Economic Plan.

15. The Local Plan at paragraph 5.1.3 states that the implementation of the policies will be supported at the local level by the Council’s Infrastructure Delivery Plan (IDP) which identifies what infrastructure currently exists in the Borough and what infrastructure is required to deliver the development proposed in the Local Plan, along with how it will be delivered, how much it will cost and what funding will be required.

16. There has been close cooperation between Cumbria County Council and Barrow Borough Council on understanding and mitigating the impacts of development arising from the Barrow Local Plan. The two councils commissioned WSP Parsons Brinckerhoff consultants to undertake a Transport Improvements Study to support the Barrow Local Plan proposals for the period up to 2029. The study consisted of three linked elements:

- Identification of the impacts of growth allocated in Local Plan, what are the current capacity problems and physical constraints against other major developments and aspirations for growth at identified locations in the area.
- Identification of a range of potential sustainable transport improvements that can be delivered in Barrow-in-Furness, Dalton-in-Furness and Askam-in-Furness with the aim of encouraging modal shift from the car to other means of transport and reduce the impact of vehicular traffic on the road network.
- Identification of potential highways improvements at roads and junctions as agreed with Cumbria County Council and Barrow Borough Council to increase junction capacity or provide prioritisation for pedestrians and therefore improve facilities at key traffic pinch points in the area. These improvements would be subject to further consultation as the schemes proposals are developed.

17. These three elements together are intended to mitigate the impact of additional trip demand, associated with the development growth identified in the Local Plan. The Transport Improvements Study was completed in September 2016.

18. The Cumbria Coast Line runs from Barrow to Carlisle via Whitehaven and Workington. The line forms part of Network Rail, which continues as the Furness Line via Ulverston and Grange-over-Sands to Carnforth, where it connects to the West Coast Main Line.

Cumulative Impacts of CTIP, Barrow Local Plan and Other Strategies

19. It is considered that there is a joined-up approach to the planned provision of transport infrastructure in CTIP, Local Plans and other strategies in Barrow by the County Council, the Borough Council, Highways England and Network Rail.

Carlisle

20. Three of the six transport corridors in CTIP cover Carlisle:

- Corridor 1: Faces challenges surrounding a declining working age population and lower levels of skills. There is a clear need for increases in capacity and reliability on both the Cumbrian Coast Line and the A595 to support inclusive growth.
- Corridor 3: Focuses on the city of Carlisle linking into Scotland, the North East and to West Cumbria.

- Corridor 4: Spans the full length of eastern Cumbria from Scotland to Lancashire, defined by the Pennines to the east and the Lake District fells to the west. A majority of the population is centred in the city of Carlisle and the towns of Penrith and Kendal. The corridor has low unemployment rates, but this can challenge the ability of businesses to grow and develop as the labour pool is at capacity.
21. Carlisle has a diverse economy, with services, logistics and manufacturing all important. Its services are accessed by communities across North Cumbria and Southern Scotland. The City has an important role as a key location for the University of Cumbria. Planned developments include St Cuthbert's Garden Village, which will deliver more than 10,000 dwellings; the Station Gateway, which will be complemented by HS2, and a new University Campus at the Citadels), These provide the potential for Carlisle to further grow as a major regional hub.
 22. Policy SP5 of the Carlisle Local Plan deals with strategic connectivity. This policy includes reference to develop a southern relief road linking Junction 42 of the M6 with the southern end of the A689 as part of developing the broad location of Carlisle South. This is an integral part of the St Cuthbert's Garden Village Masterplan.
 23. Carlisle Station, supported by the delivery of HS2 services and new masterplan, can continue to grow as a key regional hub. It will be important that these do not undermine the ability of the route to support regional and local connections, in particular direct services to Manchester Airport and London, and stopping services at Oxenholme and Penrith.
 24. There will be a critical requirement for an integrated approach to the delivery of public realm, walking, cycling and bus infrastructure within the city centre, ensuring connectivity and the effective integration of communities within the city. This would also help address the impact of Air Quality Management Areas within the city.
 25. Surplus Ministry of Defence land (243 ha.) at Longtown (branded as Solway 45) lies within the strategic M6 Corridor and benefits from excellent road and rail connections. The development of the site is supported in the Local Plan as a key element of the strategy to grow the economy, and to secure modal shifts in freight transport.
 26. The extension of the Borders Railway presents an opportunity to deliver an additional direct link through the heart of the Scottish Borders to Edinburgh. This would also open up opportunities for communities in southern Scotland to access Carlisle and also bringing greater resilience to the rail network.
 27. Carlisle Lake District Airport provides an asset that could support enhanced regional and international connectivity. As part of promoting and enhancing the role and capacity of the airport, improvements to the A689 would improve its connectivity.

28. A central component of the Hadrian's Wall coast to coast walking and cycling routes. Further improved walking and cycling infrastructure would enhance north Cumbria's role in the visitor economy. Currently north Cumbria has a relatively low share of visitor economy activity.
29. The Carlisle Transport Improvements Study 2015 was commissioned by the County Council to mitigate the impact of and support the proposed Carlisle District Local Plan for the period 2015–2030. This study consists of two key linked elements:
- Identification of a range of potential sustainable transport improvements that can be delivered in Carlisle with the aim of encouraging modal shift from the car to other means of transport and reduce the impact of vehicular traffic on the road network.
 - Identification of potential highways improvements at 22 junctions in order to increase junction capacity or provide prioritisation to pedestrians and therefore improve facilities at key traffic pinch-points in Carlisle.
30. These two measures are complementary solutions which could help to mitigate the impact of growth required by the Local Plan.

Cumulative Impacts of CTIP, Carlisle Local Plan and Other Strategies

31. It is considered that there is a joined-up approach to the planned provision of transport infrastructure in CTIP, Local Plans and other strategies in Carlisle by the County Council, the City Council, Highways England and Network Rail.

Eden

32. Two of the six transport corridors in CTIP cover Eden:
- Corridor 4: Spans the full length of eastern Cumbria from Scotland to Lancashire, defined by the Pennines to the east and the Lake District fells to the west. The majority of the population is in the city of Carlisle and the towns of Penrith and Kendal. The corridor has low unemployment rates, but this can challenge the ability of businesses to grow and develop as the labour pool is at capacity. The corridor supports a significant agricultural sector, provides an important gateway to Cumbria's visitor economy, and takes advantage of strategic connectivity through concentrations of freight and logistics activity. Beyond the major settlements, rurality contributes to low wages, which impacts on housing affordability. The corridor is expected to see steady growth in transport demand, with the largest contributing demand factor expected to be associated with long distance journeys using the West Coast Main Line, A66 and M6.

- Corridor 6: Focuses on the area between West Cumbria to the border with Yorkshire. The corridor includes Workington, Cockermouth, Keswick, Penrith, Appleby-in-Westmorland and Kirkby Stephen all of which are important service centres. The corridor supports a strong rural and manufacturing economy with paperboard and heavy precision engineering in Workington, and engineering in Cockermouth. Strategic connectivity supports a strong logistics sector in Penrith and Workington alongside being a gateway to the wider Cumbrian visitor economy.
33. The Penrith Transport Improvements Study comprises studies by Mott MacDonald (2015) and WYG (2017). The County Council funded the cost of the WYG Study. These documents were used to inform the preparation of the Eden Local Plan (June 2017).
34. On the West Coast Main Line, an increase in freight demand and HS2 will create additional pressures. It will be important that these do not undermine the ability of the route to support regional and local connections, in particular direct services to Manchester Airport and London, and stopping services at Oxenholme and Penrith.
35. The dualling of the A66 between Penrith and Scotch Corner by Highways England presents significant opportunities for Cumbria and Penrith by transforming journey times across the Pennines. As this proposal moves forward, it will be essential that communities can see improved access and connectivity, wider benefits including improved walking, cycling and equine facilities, and the minimisation of disruption during the construction period.
36. The planned growth of Penrith presents opportunities to better integrate walking and cycling and support a shift towards active and sustainable modes of travel.
37. The Penrith Transport Improvements Study comprises studies by Mott MacDonald (2015) and WYG (2017). These documents were used to inform the preparation of the Eden Local Plan (June 2017),

Cumulative Impacts of CTIP, Eden Local Plan and Other Strategies

38. It is considered that there is a joined-up approach to the planned provision of transport infrastructure in CTIP, Local Plans and other strategies in Eden by the County Council, Eden District Council, Highways England and Network Rail.

South Lakeland

39. Three of the six strategic transport corridors in CTIP cover South Lakeland:
- Corridor 2: Covers the area from Millom in the west to the Lancashire border in the east. The corridor is dominated by the Furness Peninsula. Key towns include Barrow-in-Furness, Dalton-in-Furness, Ulverston and Grange-over-Sands.

- Corridor 4: Spans the full length of eastern Cumbria from Scotland to Lancashire, defined by the Pennines to the east and the Lake District fells to the west. The majority of the population is centred in the city of Carlisle and the towns of Penrith and Kendal. The corridor has low unemployment rates, being an attractive place to live and work, but this can challenge the ability of businesses to grow and develop as the labour pool is at capacity. This corridor supports a significant agricultural sector, provides an important gateway to Cumbria's visitor economy and takes advantage of strategic connectivity through concentrations of freight and logistics activity. Beyond the major settlements, rurality contributes to low average wages, which in turn impacts on housing affordability.
- Corridor 5: Covers key tourism destinations within the Lake District National Park, including Ambleside, Keswick and Windemere together with Kendal which acts as an important service centres for their local populations. Kendal houses a number of important advanced manufacturing businesses. The town is also an important service centre for communities within the Lake District and is a focus for sustainable housing growth in South Cumbria.

40. The strategic objectives in the adopted Local Plan Core Strategy focus on the Economy, Housing, the Environment, Accessibility, and Health and Well Being. These include:

- Promoting the vitality and viability of town and local centres through addressing obstacles to growth (such as town centre congestion in Kendal) and working with partners to reduce vacancy levels;
- Using developer contributions to support sustainable employee travel to and from work.
- Working with partners to improve sustainable rural transport and maintain rural services, including between Local Service Centres and their rural hinterland and also links to nearby centres outside the District, such as Barrow and Carnforth;
- Focusing the majority of new development in locations that are accessible by a variety of modes of transport, particularly public transport, walking and cycling;
- Improving access across the district by supporting the development and enhancement of an integrated transport network, including footpaths and cycleways;
- Supporting essential road infrastructure improvements to accommodate development, most notably the A590 between the Principal Service Centres of Kendal and Ulverston;
- Considering the development of park-and-ride/park-and-stride sites and provision of improved coach parking in Kendal;

41. The first bullet - Promoting the vitality and viability of town and local centres through addressing obstacles to growth (such as town centre congestion in Kendal) – the response is the promotion of the Kendal Northern Access Route by the County Council.

42. The A595 Grizebeck Improvement is a proposed 1 km single carriageway road between Chapels and Grizebeck on the A595 north of Barrow. The route runs to the east of the existing A595, before crossing the existing A595 and then forming a new junction with the A595/A5092 to the west of the existing junction. Improving the highway network on the A595 has been identified as critical to support the economic growth of West and South Cumbria. The scheme will also ensure the A595 can function adequately as a strategic diversion route for the A590. On 27 October 2020 the Department for Transport confirmed delivery funding for the A595 Grizebeck Improvement together with a contribution from Cumbria Local Enterprise Partnership. It is anticipated that planned construction of the bypass will end in Summer 2024.

Cumulative Impacts of CTIP, South Lakeland Local Plan and Other Strategies

43. It is considered that there is a joined-up approach to the planned provision of transport infrastructure in CTIP, Local Plans and other strategies in South Lakeland by the County Council, South Lakeland District Council, Highways England and Network Rail.

Lake District National Park

44. Two of the six transport corridors in CTIP include parts of the Lake District National Park (LDNP):

- Corridor 5 covers key tourism destinations within the LDNP, including Ambleside, Keswick and Windermere together with Kendal which acts as an important service centres for their local populations. Kendal houses a number of important advanced manufacturing businesses. The town is also an important service centre for communities within the Lake District and is a focus for sustainable housing growth in South Cumbria.
- Corridor 6: Focuses on the area between West Cumbria to the border with Yorkshire. The corridor includes Workington, Cockermouth, Keswick, Penrith, Appleby-in-Westmorland and Kirkby Stephen all of which are important service centres.

45. Within Corridor 5 there is a significant opportunity to widen and enhance the active and sustainable travel offering within the LDNP, with the potential for this to form part of the core visitor offer. The success of that approach will necessitate improved infrastructure, access (for example bicycle capacity on trains and buses), awareness raising activity and infrastructure to support electric vehicles and integrated approaches to parking.

46. Within Corridor 6 there are significant opportunities to widen and enhance the active travel offering within the LDNP and North Pennines. Most visitors to the LDNP arrive by car through corridors such as the A66 and the A591. Supporting these movements within Cumbria, railway stations at Oxenholme, Kendal, Penrith and Windermere all perform an important role.

47. The corridor requires improved parking and road infrastructure to accommodate the pressures associated with peak visitor numbers. To achieve this, a strategic and integrated approach to demand management is important to support the sustainable growth of the visitor economy, to support the status of the LDNP as a World Heritage Site and to allow its accessibility to form a core component of its visitor economy offer.
48. Although located outside the LDNP, Kendal is an important gateway to the National Park. A key challenge for Kendal concerns HGV movements from employment sites in the north of the town to the M6. The Kendal Northern Access Route, linking the A6 to the A591 to the north of the town is a strategically important solution to this issue.
49. This improvement scheme will benefit travellers between the M6 and the LDNP.
50. There is also a network of off-road cycle routes using the bridleway network and bespoke routes, aimed at visitors to Cumbria, located in the LDNP.

Cumulative Impacts of CTIP, Lake District National Park Local Plan and Other Strategies

51. It is considered that there is a joined-up approach to the planned provision of transport infrastructure in CTIP, the Local Plan and other strategies in the LDNP by the County Council, the Lake District National Park Authority, Highways England and Network Rail.

Yorkshire Dales National Park

52. The majority of Yorkshire Dales National Park is in North Yorkshire, with a sizeable chunk in Cumbria and a small part in Lancashire. CTIP only relates to that relates only to that part of the National Park in Cumbria.
53. Transport Corridor 4 spans the full length of eastern Cumbria from Scotland to Lancashire, defined by the Pennines to the east and the Lake District fells to the west. This corridor sits between and links the North Pennines, Yorkshire Dales National Park and Lake District National Park. In this corridor the focus of CTIP is to support an integrated approach to visitor travel and rural connectivity.

Cumulative Impacts of CTIP, Yorkshire Dales National Park Local Plan and Other Strategies

54. The focus in Transport Corridor 4 – to support an integrated approach to visitor travel and rural economy – is considered beneficial to that part of the Yorkshire Dales National Park in Cumbria.

Appendix D: Water Framework Directive Assessment Report



**Cumbria Transport
Infrastructure Plan:
Strategic Environmental
Assessment**

**Water Framework Directive
Assessment Report**

September 2021

Report details

Project	Cumbria Transport Infrastructure Plan: Strategic Environmental Assessment
Report title	Water Framework Directive Assessment Report
Revision	1
Date	September 2021
Prepared by	PM
Checked by	GK/NVB
Authorised by	MB

Revision history

Revision	Status	Date	Comments
0	Draft	02 August 2021	Draft
1	Final	06 September 2021	Final

CTIP Water Framework Directive Assessment Report

1 Introduction

- 1.1 Any works which could affect the condition of a classified water body requires an assessment under the Water Framework Directive. Water bodies can include lakes, reservoirs, streams, rivers, canals, groundwater, transitional waters (estuaries) and coastal waters. The Assessment needs to demonstrate how any adverse impacts will be mitigated and, where feasible, how the status of the waterbody can be enhanced in order to achieve the required good status targets.
- 1.2 The Water Framework Directive 2000 requires natural water bodies to achieve both good chemical status and good ecological status. River Basin Management Plans outline the actions required to enable natural water bodies to achieve good ecological status (Defra, 2014).
- 1.3 Artificial water bodies and heavily modified water bodies may be prevented from reaching good ecological status due to the modifications necessary to maintain their function. They are, however, required to achieve good ecological potential, through implementation of a series of mitigation measures outlined in the applicable River Basin Management Plan (Defra, 2014).
- 1.4 New activities and schemes, such as road construction activities, can affect the quality of water within our water bodies as well as the physical habitats and ecology it sustains, either worsening it and causing deterioration, or improving it by carrying out environmental improvements.

2 Cumbria Transport Infrastructure Plan

- 2.1 Cumbria County Council as a Highways and Transport Authority has the duty to develop a Local Transport Plan (LTP). The Cumbria Transport Infrastructure Plan (CTIP) sets the policy framework for the role of transport and connectivity in supporting sustainable and inclusive growth in Cumbria for the period 2022–2037. It has been developed by Cumbria County Council and Cumbria Local Enterprise Partnership (LEP) and is Cumbria’s Local Transport Plan.
- 2.2 CTIP provides a clear foundation for continued dynamic growth in Cumbria by providing clear direction and signposting to future studies, initiatives, and schemes. This will promote Cumbria to be a leading authority in driving sustainable, dynamic and resilient economic growth.
- 2.3 CTIP sets out Cumbria County Council’s vision and strategy for the long-term development of transport solutions in the county. It will provide the framework for how transport will support the economic, social, and environmental development of Cumbria.
- 2.4 CTIP draws on the wider policies of the council, national and regional transport strategy / policy, and potential sources of funding streams.

- 2.5 The study area comprises the entire county of Cumbria. Cumbria comprises the districts of Allerdale, Barrow, Carlisle, Copeland, Eden and South Lakeland. The Lake District National Park is wholly within Cumbria and part of the Yorkshire Dales National Park is within Cumbria in Eden and South Lakeland Districts.
- 2.6 CTIP considers key proposals based on the three objectives and nine subsequent action areas, informed by the future needs of six transport corridors. While previously identified transport interventions are proposed within the action areas, detail on the impacts of these schemes are not currently possible at the strategic policy level of the CTIP. However, it is possible that some of the proposals could affect the condition of a classified water body under the Water Framework Directive.
- 2.7 The County Council will take full account of the requirements of the Water Framework Directive at an appropriate point in the development of the scheme, such as in the preparation of a planning application for one of the proposals in CTIP¹. This will include an appropriate Water Framework Directive assessment of that scheme.
- 2.8 The aim of the Directive is for all water bodies to be at good status. As such there are two high-level principles of the Water Framework Directive:
1. An activity² should not cause or contribute to deterioration of status.
 2. An activity should not jeopardise the water body achieving good status. This is defined as Good Ecological Status or Good Ecological Potential where the water body is defined as heavily modified. Road improvements could modify the size and shape of a watercourse, reduce or increase the flow of water, introduce artificial materials or remove sediment and/or vegetation. These can all affect:
 - physical habitat – the distribution and diversity of habitat including the physical processes that sustain and create new habitat. Physical habitat is essential for fish, macrophytes and invertebrates to live and thrive,
 - water quality – particularly physico-chemical aspects of water quality - such as levels of dissolved oxygen, phosphorus and ammonia,
 - fish and eels,
 - macrophytes - water plants visible to the naked eye, growing in the river,

¹ The key data sources are the Environment Agency Catchment Data Explorer (see <http://environment.data.gov.uk/catchment-planning>). This includes a link to the water body summary table. This defines for each water body: current water body status, target water body status, hydro-morphology status, designation as heavily modified water body) and reason, and water quality. Magic maps (<http://magic.gov.uk>) will be used to find information on the location and size of Water Framework Directive habitats.

² In the context of the CTIP “activity” refers to a proposed action or intervention such as a transport infrastructure intervention

- invertebrates - insects, worms, molluscs, crustacea etc living on the riverbed, and
- diatoms - microscopic diatoms (algae) found on rocks and plants.

2.9 A Water Framework Directive assessment therefore assists understanding of:

- the impact an activity may have on the immediate water body and any linked water bodies
- whether an activity complies with the River Basin Management Plan.

2.10 If a proposed intervention is considered likely to either cause a deterioration in the status of a water body or jeopardise a water body achieving good status, then an Article 4.7 assessment would be required. Article 4.7 is an exemption to the Water Framework Directive legislation but is only available subject to stringent conditions, requiring significant and often complex evidence to be made available. As such this should only be a last resort, when all other alternatives have been rejected.

2.11 Conditions for granting Article 4.7 exemptions are:

- Have all practicable steps been taken to mitigate the adverse impact on the status of the water body?
- Can the beneficial objectives served by the project be achieved by other means that are technically feasible, do not lead to disproportionate cost and are a significantly better environmental option?
- Are the reasons of overriding public interest and/or are the benefits of the environment and to society of achieving Water Framework Directive objectives outweighed by the benefits of the project to human health, maintenance of human safety or sustainable development?

2.12 In delivering any scheme under CTIP the Council will have full regard to the Directive and aim to avoid any impacts that could adversely impact a water body. The Council will carry out a full project level assessment to ensure that any impacts are appropriately mitigated. This will be done in full consultation with the Environment Agency.

3 River Basin Management Plans in Cumbria

3.1 There are various River Basin Management Plans in Cumbria, including:

- The West Cumbria Catchment Partnership
- The Eden Catchment Partnership

3.2 The West Cumbria Catchment Partnership identifies priority areas for delivering reduced flood risk, improved water quality and enhanced biodiversity. There are actions plans for each water body in the catchment, which include a summary of the issues and identify priority actions.

- 3.3 The Eden Catchment Partnership considers various aspects of the water ecosystem, including water quality and quantity, ecological networks, carbon capture and storage, and recreation and leisure. It also contains action plans for each water body.
- 3.4 The relevant catchment plans will be considered in the context of any proposals taken forward.

4 Conclusion

- 4.1 CTIP sets the policy framework for the role of transport and connectivity in supporting sustainable and inclusive growth in Cumbria for the period 2022–2037. It considers key proposals based on three objectives informed by future travel needs. While previously identified transport interventions are included within the key proposals, detail on the impacts of these schemes are not currently possible at the strategic policy level of the CTIP. However, it is possible that some of the proposals could affect the condition of a classified water body under the Water Framework Directive.
- 4.2 The County Council will take full account of the requirements of the Water Framework Directive at an appropriate point in the development of the scheme, such as in the preparation of a planning application for proposals in CTIP. This will include an appropriate Water Framework Directive assessment of that scheme.
- 4.3 Relevant River Basin Management Plans will be considered in the context of any proposals taken forward.

Appendix E: CTIP SEA Alternative Options Assessment

**Cumbria Transport Infrastructure Plan
Strategic Environmental Assessment**

Cumbria Transport Infrastructure Plan (CTIP)										
	SEA objectives	Clean and Healthy Cumbria			Connected Cumbria			Community Cumbria		
		Active Travel	Digital	Transmission	Rail	Road	International	Bus	Town	Integration
1	Maintain the vitality of town centres	Minor positive	Neutral or no effect	Significant positive	Significant positive	Significant positive	Significant positive	Significant positive	Significant positive	Significant positive
2	Improve accessibility to jobs, facilities and services	Significant positive	Significant positive	Minor positive	Significant positive	Significant positive	Minor positive	Significant positive	Significant positive	Significant positive
3	Enhance and protect the green infrastructure and countryside	Minor positive	Significant positive	Neutral or no effect	Minor positive	Neutral or no effect	Neutral or no effect	Significant positive	Minor positive	Minor positive
4	Protect and promote everyone's physical and mental wellbeing and safety	Significant positive	Minor positive	Neutral or no effect	Neutral or no effect	Minor positive	Minor positive	Significant positive	Significant positive	Minor positive
5	Reduce noise pollution	Minor positive	Minor positive	Minor positive	Neutral or no effect	Neutral or no effect	Neutral or no effect	Minor positive	Minor positive	Significant positive
6	Reduce all forms of transport-related air pollution in the interests of local air quality	Significant positive	Significant positive	Significant positive	Minor positive	Neutral or no effect	Minor positive	Minor positive	Minor positive	Significant positive
7	Reduce transport related greenhouse gas emissions	Significant positive	Significant positive	Significant positive	Significant positive	Neutral or no effect	Neutral or no effect	Significant positive	Minor positive	Significant positive
8	Protect and enhance habitats and the diversity and abundance of species	Minor positive	Minor positive	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Minor positive	Neutral or no effect	Neutral or no effect

**Cumbria Transport Infrastructure Plan
Strategic Environmental Assessment**

Cumbria Transport Infrastructure Plan (CTIP)										
SEA objectives	Clean and Healthy Cumbria			Connected Cumbria			Community Cumbria			
	Active Travel	Digital	Transmission	Rail	Road	International	Bus	Town	Integration	
9	Maintain and improve the quality of water resources	Minor positive	Minor positive	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Minor positive	Minor positive
10	Retain the floodwater storage function of riparian land and the floodplain and reduce the risk of flooding where it would be detrimental	Minor positive	Minor positive	Neutral or no effect	Minor positive	Neutral or no effect	Neutral or no effect	Neutral or no effect	Minor positive	Minor positive
11	Maintain resources such as minerals and soils and enhance geological diversity	Neutral or no effect	Minor positive	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Minor positive	Neutral or no effect	Minor positive
12	Optimise the use of previously developed (brownfield) land thereby reducing use of greenfield land	Minor positive	Neutral or no effect	Neutral or no effect	Significant positive	Neutral or no effect	Minor positive	Minor positive	Significant positive	Minor positive
13	Reducing waste generation by maximising recycling	Neutral or no effect	Uncertain / not applicable	Neutral or no effect	Uncertain / not applicable	Minor positive	Neutral or no effect	Minor positive	Neutral or no effect	Minor positive
14	Adapt transport network to climate change	Minor positive	Significant positive	Significant positive	Minor positive	Significant positive	Significant positive	Significant positive	Significant positive	Significant positive

**Cumbria Transport Infrastructure Plan
Strategic Environmental Assessment**

Cumbria Transport Infrastructure Plan (CTIP)										
SEA objectives	Clean and Healthy Cumbria			Connected Cumbria			Community Cumbria			
	Active Travel	Digital	Transmission	Rail	Road	International	Bus	Town	Integration	
15	Protect and where possible, enhance the historic environment, heritage assets and their settings	Minor positive	Neutral or no effect	Neutral or no effect	Minor positive	Neutral or no effect	Minor positive	Minor positive	Significant positive	Minor positive
16	Maintain and enhance the quality and distinctiveness of the built environment	Minor positive	Neutral or no effect	Neutral or no effect	Minor positive	Neutral or no effect	Minor positive	Neutral or no effect	Significant positive	Minor positive
17	Maintain and enhance the quality and character of the landscape, including its contribution to the setting and character of settlements	Minor positive	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Minor positive	Neutral or no effect	Minor positive
18	Maintains and supports the growth in productivity of the rural and visitor economy	Minor positive	Significant positive	Significant positive	Minor positive	Significant positive	Significant positive	Minor positive	Minor positive	Significant positive

**Cumbria Transport Infrastructure Plan
Strategic Environmental Assessment**

Alternative Option: Business as Usual (No CTIP)										
SEA objectives	Clean and Healthy Cumbria			Connected Cumbria			Community Cumbria			
	Active Travel	Digital	Transmission	Road	Rail	International	Bus	Town	Integration	
15	Protect and where possible, enhance the historic environment, heritage assets and their settings	Neutral or no effect	Neutral or no effect	Neutral or no effect	Minor negative	Neutral or no effect	Neutral or no effect	Minor negative	Neutral or no effect	Neutral or no effect
16	Maintain and enhance the quality and distinctiveness of the built environment	Neutral or no effect	Neutral or no effect	Neutral or no effect	Minor negative	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect
17	Maintain and enhance the quality and character of the landscape, including its contribution to the setting and character of settlements	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect
18	Maintains and supports the growth in productivity of the rural and visitor economy	Neutral or no effect	Neutral or no effect	Minor negative	Neutral or no effect	Neutral or no effect	Neutral or no effect	Neutral or no effect	Minor positive	Minor negative