

IIA Appendices – Local Transport and Connectivity Plan



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Appendices

- A** SEA Regulations Checklist
- B** Scoping Consultation Responses
- C** Assessment of Policies (from 2020 LTP)
- D** Assessment of Projects (from 2020 LTP)

A SEA Regulations Checklist

Strategic Environmental Assessment Regulations Checklist³³

Regulation Requirement	Where it is addressed in the SEA
<p>Preparation of environmental report (regulation 12)</p> <p>Preparation of an environmental report that identifies describes and evaluates the likely significant effects on the environment of implementing the plan or programme and reasonable alternatives taking into account the objectives and geographical scope of the plan or programme (regulation 12(2)).</p> <p>The report shall include such of the information referred to in Schedule 2 as may reasonably be required, taking into account current knowledge and methods of assessment, the contents and level of detail in the plan or programme, its stage in the decision-making process and the extent to which certain matters are more appropriately assessed at different levels in the process to avoid duplication of the assessment (regulation 12(3)).</p> <p>Information may be provided by reference to relevant information obtained at other levels of decision-making or through other legislation (regulation 12 (4)).</p> <p>When deciding on the scope and level of detail of information to be included in the environmental report the consultation bodies should be consulted.</p>	<p>This Report constitutes the Environmental Report.</p> <p>The assessment of likely significant effects and alternatives is presented in Section 5 and Appendices C and D.</p> <p>Limitations to the assessment, including the level of detail available and duplication of assessments and other legislation is referred to in paragraphs 3.12 - 3.14.</p> <p>The IIA Scoping Report was used to consult consultation bodies and is referred to in paragraph 3.4.</p>
<p>The information referred to in Schedule 2 is:</p> <p>a) An outline of the contents, main objectives of the plan or programme, and relationship with other relevant plans and programmes.</p>	<p>As outline of the LTCP is provided in Section 2 of this report. The Scoping Report reviewed other plans and programmes, and the findings are also summarised in this report, paragraph 4.2.</p>
<p>b) The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.</p> <p>and</p> <p>c) The environment characteristics of areas likely to be significantly effected.</p>	<p>The Scoping Report provided an overview of the baseline and trends, these are also summarised in this report in Table 4.</p>
<p>d) Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, such as areas designated pursuant to Directives 2009/147/EC (Conservation of Wild Birds) and 92/43/EEC (Habitats Directive).</p>	<p>Sustainability issues and opportunities are summarised in Table 5. A Habitats Regulations Assessment is also being undertaken.</p>
<p>e) The environmental protection objectives, established at international, Community or national level, which are relevant to</p>	<p>As outline of the LTCP is provided in Section 2 of this report. The</p>

³³[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/580073/Strategic Environmental Assessment Regulations requirements checklist.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/580073/Strategic_Environmental_Assessment_Regulations_requirements_checklist.pdf)

<p>the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.</p>	<p>Scoping Report reviewed other plans and programmes, and the findings are also summarised in this report, paragraph 4.2.</p>
<p>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, landscapes and the interrelationship between the above factors. These effects should include secondary, cumulative, synergistic, short, medium and long-term permanent and temporary, positive and negative effects.</p>	<p>Section 5 of this report and Appendices C & D provides the assessment of significant effects for the topics listed.</p>
<p>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</p>	<p>Table 15 and Table 16 in Section 6 sets out mitigation and enhancement measures.</p>
<p>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.</p>	<p>Table 13 sets out the comparison of alternatives and the methodology is presented in Section 3, including limitations to the assessment in paragraphs 3.12 - 3.14.</p>
<p>i) A description of measures envisaged concerning monitoring in accordance with regulation 17.</p>	<p>Paragraph 6.5 set out required monitoring.</p>
<p>j) A non-technical summary of the information provided under the above headings.</p>	<p>A Non Technical summary is provided at the start of this report.</p>
<p>Consultation procedures (regulation 13) As soon as reasonably practicable after their preparation, the draft plan or programme and environmental report shall be sent to the consultation bodies and brought to the attention of the public, who should be invited to express their opinion. The period within which opinions must be sent must be of such length as will ensure an effective opportunity to express their opinion.</p>	<p>This Report will accompany the LTCP during public consultation.</p>
<p>Information as to adoption of plan or programme (regulation 16) As soon as reasonably practicable after the plan or programme is adopted, the consultation bodies, the public and the Secretary of State (who will inform any other EU Member States consulted) shall be informed and the following made available:</p> <ul style="list-style-type: none"> - the plan or programme adopted - the environmental report <p>a statement summarising:</p> <ul style="list-style-type: none"> (a) how environmental considerations have been integrated into the plan or programme; (b) how the environmental report has been taken into account; (c) how opinions expressed in response to: <ul style="list-style-type: none"> (i) the invitation referred to in regulation 13(2)(d); (ii) action taken by the responsible authority in accordance with regulation 13(4), have been taken into account; (d) how the results of any consultations entered into under regulation 14(4) have been taken into account; (e) the reasons for choosing the plan or programme as adopted, in the light of the other reasonable alternatives dealt with; and (f) the measures that are to be taken to monitor the significant environmental effects of the implementation of the plan or programme. (regulation 16) 	<p>A Post-adoption Statement will be issued following the consultation.</p>

<p>Monitoring of implementation of plans or programmes (regulation 17)</p> <p>Monitoring of significant environmental effects of the plan's or programme's implementation with the purpose of identifying unforeseen adverse effects at an early stage and being able to undertake appropriate remedial action (regulation 17 (1)).</p> <p>Monitoring arrangements may comprise or include arrangements established for other purposes (regulation 17 (2)).</p>	<p>Measures to be monitored in Section 6 of this report have been agreed with CPCA.</p>
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B Scoping Consultation Responses



Ms Emma White
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Direct Dial: 01223 582775

Our ref: PL00769883

25 April 2022

Dear Ms White

IIA Scoping Report Cambridgeshire and Peterborough Local Transport and Connectivity Plan

Thank you for consulting us on the Integrated Impact Assessment - Local Transport and Connectivity Plan Scoping Report. As the Government's Adviser on the historic environment, Historic England is keen to ensure that protection of the historic environment is fully taken into account at all levels and stages of the local planning process.

HE General Advice

The historic environment should be considered as part of the sustainability appraisal process. We recommend that these comments should be read alongside our Sustainability Appraisal and Strategic Environmental Assessment - Advice Note 8 <<https://historicengland.org.uk/images-books/publications/sustainability-appraisal-and-strategic-environmental-assessment-advice-note-8/>>

Comments

Chapter 2 The Updated Plan

We note your Vision after paragraph 2.3. We note reference to the environment which is welcomed. It is important that this includes both the historic and natural environment.

Figure 2 sets out a number of goals. The Environment goal would appear to be slanted towards the natural environment. We strongly suggest that the historic environment should also be referenced here.

Table 1 - We welcome reference to the historic environment under the environment goal in this table.



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Chapter 3 Policies, Plans, Programmes and Sustainability Objectives

We note that Table 2 and Appendix A sets out a list of relevant Plans, Policies and Programmes.

We welcome reference to the NPPF, Minerals and Waste Local Plan and various adopted and emerging Local Plans as well as an SPD in Table 2.

When considering key plans and programmes, we also recommend the inclusion and consideration of the following:

International/European

- UNESCO World Heritage Convention
- European Landscape Convention
- The Convention for the Protection of the Architectural Heritage of Europe
- The European Convention on the Protection of Archaeological Heritage

National

- Planning (Listed Buildings & Conservation Areas) Act 1990
- Ancient Monuments & Archaeological Areas Act 1979
- Government's statement on the Historic Environment
- National Planning Policy Statement for Networks
- National Planning Practice Guidance

Local

- Local Plans - we note that you have included many of these which is welcomed. However it is important to refer both to the adopted and emerging Plan eg for Cambridge City/South Cambs also need to refer to adopted Plans)
- Historic Environment Record
- Heritage/Conservation Strategies
- Other Strategies (e.g. cultural or tourism)
- Conservation Area Character Appraisals and Management Plans
- Listed building Heritage Partnership Agreements
- SPDs - You have referred to one SPD for Peterborough but there will be other relevant SPDs across the area.

Chapter 4 Baseline and SEA Framework

All **designated heritage assets** (Conservation Areas, Listed Buildings, Scheduled Monuments, Registered Parks and Gardens, and Protected Wrecks) within the area should be identified. Mapping these assets provides a greater indication of their distribution and highlights sensitive areas. We welcome reference to these at paragraph 4.20 and Figure 5.

Mapping of assets does help to provide a greater indication of their distribution and highlight sensitive areas. However, we would stress that assessing the potential impact of development on the significance of heritage assets requires more than a simple mapping of the location of those assets and identification of those assets on or in proximity to potential sites. Our Historic England Advice Note 3 sets out a sequential approach to assessing the impact on significance.

We also would expect **non-designated heritage assets** to be identified. These include, but are not confined to, locally listed buildings. At the moment, these are not identified.

In addition to the above, we would expect reference to currently **unknown heritage assets**, particularly sites of historic and archaeological interest. The unidentified heritage assets of the area should be acknowledged and outlined in this section.

We suggest that you change undesignated to non-designated (in accordance with the NPPF terminology).

We also suggest that you use the word **setting** in relation to heritage assets.

We also suggest that you make reference to Heritage at Risk. Identification and mapping of designated and non-designated **heritage assets at risk** can provide an indication of clusters and themes. Finally, we recommend that you refer to historic landscapes and townscapes. For Heritage at Risk, Historic England's National Heritage at Risk Register includes Grade II listed places of worship provided that they are used six or more times a year for worship.

Historic England's Good Practice Advice Note 1 contains advice on other relevant sources of evidence. These include Conservation Area Appraisals and Management Plans, Local Lists, Historic Characterisation assessments and any other in-house and local knowledge. We recommend that these other sources of evidence are considered as part of the SA process.

We note that you have mapped **National Character Areas** at figure 7 which is welcomed. Landscape Character Assessment is the process of identifying and describing variation in the character of the landscape. It seeks to identify and explain the unique combination of elements and features (characteristics) that make landscapes distinctive. This process results in the production of a Landscape Character Assessment.

We suggest that you also refer to **Historic Landscape Characterisation** data in your assessment. We refer you to our website which includes some helpful guidance in this regard and sets out some of the differences between this and Landscape Character Areas.

<https://historicengland.org.uk/research/methods/characterisation/historic-landscape-characterisation/>

It is our view that Historic Landscape Characterisation (HLC) provides exactly the sort of landscape-scale information which should assist an SEA; giving perspective on the relative character of the wider area into which alterations to the character of any particular part might be weighed.

HLC is an inherently comprehensive and generalising approach, all about providing context to the understanding of the particular and about the management of change everywhere. We consider that the HLC approach is applicable and highly relevant to informing SEA. In fact, all of the commissioned County-level HLCs were designed to inform strategic level planning. (It should also be noted that HLC can be undertaken at any scale, including coarser or finer grained work - HLC is also a principled approach which can be, and is being, undertaken at a range of scales).

The lack of detailed Historic Landscape Characterisation for the county of Cambridgeshire should ideally be addressed as part of this high level, strategic evidence gathering. This work might be commissioned in collaboration with Cambridge County Council and the other local authorities in the area. We recommend early discussion with Local Authorities in this regard. We have already been discussing this matter with local authorities in relation to their Local Plan work and Ox Cam work.

Key Sustainability Issues

We would suggest that the starting point for considering Key Sustainability Issues for the Historic Environment should include:

- Conserving and enhancing designated and non-designated heritage assets and the contribution made to their significance by their settings
- Heritage assets at risk from neglect, decay, or development pressures;



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- Areas where there is likely to be further significant loss or erosion of landscape/seascape/townscape character or quality, or where development has had or is likely to have significant impact (direct and or indirect) upon the historic environment and/or people's enjoyment of it
- Traffic congestion, air quality, noise pollution and other problems affecting the historic environment

We would expect to see consideration of opportunities. It is considered that the historic environment can make a significant contribution to the success of development and there may be opportunities for the enhancement of the historic environment which comes from sustainable development proposals. It is considered that the Sustainability Appraisal should highlight these opportunities. Example opportunities for the historic environment to include within the Sustainability Appraisal can be found in our guidance notes in the links above.

SEA Objectives

The objectives and questions identified on page 16 provide a useful starting point for the historic environment.

Whilst recognising that the number of objectives needs to be manageable, we recommend the objectives below:

Environmental Objectives

- Protect, enhance and manage the character and appearance of landscapes/seascapes/townscapes, maintaining and strengthening local distinctiveness and sense of place
- Protect, manage and improve local environmental quality
- Achieve high quality sustainable design for buildings, spaces and the public realm

Social Objectives

- Improve and broaden access to the local historic environment
- Provide better opportunities for people to understand local heritage and participate in cultural and leisure activities

Economic Objectives

- Foster heritage-led regeneration and address heritage at risk
- Optimise the use of previously developed land, buildings and existing infrastructure
- Promote heritage-led sustainable tourism
- Support the sustainable use of historic farmsteads



With regard to decision making criteria/questions, we recommend the following examples of appropriate criteria:

Environmental: will the policy or proposal

- Conserve and/or enhance heritage assets, their setting and the wider historic environment?
- Contribute to the better management of heritage assets and tackle heritage at risk?
- Improve the quality and condition of the historic environment?
- Respect, maintain and strengthen local character and distinctiveness?
- Promote high quality design?
- Integrate climate change mitigation and adaptation measures into the historic environment sensitively?
- Alter the hydrological conditions of water-dependent heritage assets, including organic remains?

Social: will the policy or proposal

- Increase the social benefit (e.g. education, participation, citizenship, health and well-being) derived from the historic environment?
- Improve the satisfaction of people with their neighbourhoods as places to live?
- Engage communities in identifying culturally important features and areas?
- Provide for increased access to and enjoyment of the historic environment?
- Provide for increased understanding and interpretation of the historic environment?
- Provide new leisure, recreational, or cultural activities?
- Support and widen community uses through shared facilities?

Economic: will the policy or proposal

- Increase the economic benefit derived from the historic environment?
- Promote heritage-led regeneration?
- Lead to the repair and adaptive re-use of a heritage asset and encourage high quality design?
- Make the best use of existing buildings and physical infrastructure?
- Promote heritage based sustainable tourism?
- Ensure that repair and maintenance is sympathetic to local character?
- Help to reduce the number of vacant buildings through adaptive re-use?

Assessment Criteria

In developing assessment criteria, we would advise against a purely distance based approach. The impact of proposals on the significance of heritage assets should be taken into consideration at an early stage. In terms of projects, this should be based on more than just measuring the proximity of a potential allocation to heritage assets.



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Impacts on significance are not just based on distance or visual impacts, and assessment requires a careful judgment based on site visits and the available evidence base. This is preferred to the application of a standard proximity test (e.g. is the site within a set distance of a heritage asset) as it avoids misleading results (Our Historic England Advice Note 3 sets out a sequential approach to assessing the impact on significance).

We would suggest that you avoid summing the scores indicating how each proposal performs against the criteria to give an aggregate contribution to each relevant SA objective since such an approach may inadvertently mask 'showstoppers' by effectively averaging out the scores. There needs to be some mechanism of identifying where an impact is so great that the proposal should not be progressed.

Consideration of Opportunities

We would expect to see consideration of opportunities. It is considered that the historic environment can make a significant contribution to the success of development and there may be opportunities for the enhancement of the historic environment which comes from sustainable development proposals. It is considered that the IIA should highlight these opportunities. Example opportunities for the historic environment to include within the IIA can be found in our guidance notes in the links above.

Method for Generation of Alternatives

The historic environment should be a factor when considering a method for the generation of alternative proposals.

Archaeology

Scoping and evaluation of archaeological and landscape impacts needs to be an iterative process where existing sources (HER's cartographic etc. and research frameworks e.g. <https://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/wiki/>) are consulted, work is done to explore those questions and new questions asked (including lidar, aerial survey, geophysical survey, field walking, deposit modelling see our new guidance <https://historicengland.org.uk/images-books/publications/deposit-modelling-and-archaeology/heag272-deposit-modelling-and-archaeology/>, trial trenching). These techniques should be used to model risk and build a robust approach to understanding that through any project so the greater heritage and project delivery risks are targeted first so they can inform minimisation and timely mitigation)



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Other Assessment methodologies

Finally, we would add that whilst this assessment process is a vital part of the assessment of the transport strategy more detailed assessment of particular aspects may be necessary going forward for particular schemes. The schemes listed in Appendix A are varied, and wide ranging in scale and scope and further detailed assessment will be needed.

For example, Historic England would expect to see the completion of a Heritage Impact Assessment as part of the evidence base for certain transport proposals likely to have an impact on the significance of heritage assets (including development within the setting of the heritage assets). We would be happy to provide further advice in this regard if and where this may be necessary as part of the evidence base for transport proposals.

Conclusion

We would remind you that the National Planning Policy Framework (para 32) is very clear that, in terms of sustainable development, harm to the historic environment should be avoided in the first instance and wherever possible alternative options which reduce or eliminate such impacts should be pursued.

*NPPF Para 32: Local plans and spatial development strategies should be informed throughout their preparation by a sustainability appraisal that meets the relevant legal requirements. This should demonstrate how the plan has addressed relevant economic, social and environmental objectives (including opportunities for net gains). **Significant adverse impacts on these objectives should be avoided and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued.** Where significant adverse impacts are unavoidable, suitable mitigation measures should be proposed (or, where this is not possible, compensatory measures should be considered).*

Historic England strongly advises that the local authority conservation teams and archaeological advisors are closely involved throughout the preparation of the assessment of this evidence. They are best placed to advise on; local historic environment issues and priorities, including access to data held in the Historic Environment Record (HER- formerly Sites and Monuments Record); how the proposal can be tailored to minimise potential adverse impacts on the historic environment; the nature and design of any required mitigation measures; and opportunities for securing wider benefits for the future conservation and management of heritage assets.



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This opinion is based on the information provided by you in the document dated March 2022 and, for the avoidance of doubt, does not affect our obligation to advise you on, and potentially object to any specific development proposal which may subsequently arise from this or later versions of the strategy which is the subject to consultation, and which may, despite the assessment, have adverse effects on the historic environment.

If you have any queries about any of the matters raised above or would like to discuss anything further, please do not hesitate to contact me.

We would encourage you to work with local conservation officers, archaeology officers and local heritage community groups in the preparation of the IIA.

Yours sincerely,

Debbie Mack
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Dear Emma White

Cambridgeshire and Peterborough Combined Authority Local Transport and Connectivity Plan: Impact Assessment (IIA) scoping report.

Thank you for seeking our advice on the scope of Integrated Impact Assessment (IIA) for the Cambridgeshire and Peterborough Combined Authority Local Transport and Connectivity Plan (LTCP), in your email of 24 March 2022.

Natural England is a non-departmental public body. Our statutory purpose is to ensure that the natural environment is conserved, enhanced, and managed for the benefit of present and future generations, thereby contributing to sustainable development.

We welcome that Cambridgeshire and Peterborough Combined Authority (CPCA) is producing a revised Local Transport and Connectivity Plan (LTCP) to reflect changes in local and national policy and to address climate change, health inequalities, social exclusion, and safety issues. Natural England supports to the aim to provide a transport network that delivers enhanced access to opportunities and quality of life improvements for all.

Natural England welcomes that preparation of an IIA will incorporate a Strategic Environmental Assessment (SEA) and a Habitats Regulations Assessment (HRA).

Our general comments on the proposed approach to the IIA, set out in the Scoping Report (Tresor Consulting, March 2022) are provided below. Annex A includes advice on sources of local plan evidence.

Vision and objectives

Natural England supports the revised vision and objectives and the aspiration for a Transport Network which secures a future in which the region and its people can thrive. We generally agree with the statement that:

It must put improved public health at its core, it must help create a fairer society, it must respond to climate change targets, it must protect our environment and clean up our air, and it must be the backbone of sustainable economic growth in which everyone can prosper.

Goals to protect and enhance the natural environment and reduce emissions to net zero by 2050 are welcomed by Natural England.

Review of plans, policies and programmes

We support the update to the review of plans, policies and programmes identified in Table 2. Natural England has not reviewed the plans listed. However, we have provided advice on sources of local plan evidence for the natural environment in Annex A.

Baseline and SEA Framework

We are satisfied that the SEA Framework that will be used to assess the LTCP and alternatives is appropriate. The objectives including natural capital, biodiversity, landscape, soil, water, air and climatic factors capture relevant natural environment matters across the CPCA area. Please also see our advice in Annex A.

Methodology

Natural England is generally satisfied that the proposed approach to the SEA including baseline and SEA framework and assessment methodology, is in general accordance with the requirement of the Environmental Assessment of Plans and Programmes Regulations (the SEA Regulations). We welcome the proposal to screen and appraise change to policies and projects to consider whether they result in changes to the SEA. Where proposed changes have the potential to affect the SEA they will be re-assessed.

We are content that the IIA will incorporate HRA undertaken in accordance with the requirements of the Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). We welcome that an updated Screening Report will be produced to determine any additional European sites, whether the changes to policies and projects are likely to have a significant effect on any of the site's conservation objectives and update to the plans and projects considered for in-combination effects.

We support the proposed approach to summarise and present the results of previous assessments alongside the assessment of updated policies and plans, so that environmental effects of the entire LTCP are represented and any additional mitigation and monitoring requirements identified.

Further guidance is set out in Planning Practice Guidance on [environmental assessment, natural environment and climate change](#).

I hope you will find our comments helpful. Please send any new consultations or further information on this consultation to consultations@naturalengland.org.uk.

Yours sincerely

Janet Nuttall
Sustainable Development Lead Adviser

Annex A – Sources of local plan evidence on the natural environment

The following sources of evidence may be useful in ensuring local plans are evidence based, in line with paragraph 165 of the National Planning Policy Framework (NPPF) and assist in meeting Strategic Environmental Assessment (SEA) requirements. A range of additional locally specific evidence is also likely to be needed to underpin plan preparation.

General natural environmental evidence

[National Character Areas](#) (NCAs) divide England into 159 distinct natural areas. NCA profiles contain descriptions of the area and statements of environmental opportunity, which may be useful to inform proposals in your plan.

Natural England has also published downloadable [natural capital maps](#). These are a suite of ten maps, of different aspects of natural capital, contributes to our understanding of where our natural capital is.

The [Magic](#) website will provide you with much of the nationally held natural environment data for your plan area in downloadable GIS format. Specific data sets are listed under the environmental topics below.

[Cambridgeshire & Peterborough Environmental Records Centre](#) (CPERC) holds a range of additional information on the natural environment, principally ecological.

Biodiversity and geodiversity

The most relevant layers on [Magic](#) for you to consider are Ancient Woodland, Local Nature Reserves, Priority Habitat Inventory, Sites of Special Scientific Interest (including their impact risk zones), Special Areas of Conservation, Special Protection Areas, and Ramsar Sites (including, where relevant, marine designations).

You may also wish to draw on more detailed information on specific [Sites of Special Scientific Interest](#) and the [Conservation Objectives](#) and [Site Improvement Plans](#) for Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

Natural England's SSSI Impact Risk Zones can be used to help identify the potential for the development to impact on a SSSI. The dataset and user guidance can be accessed on [Magic](#) and from the [Natural England Open Data Geoportal](#).

Priority Habitats and Species

Priority habitats and species are of particular importance for nature conservation and included in the England Biodiversity List published under section 41 of the Natural Environment and Rural Communities Act 2006. Most priority habitats will be mapped either as Sites of Special Scientific Interest, on the Magic website or as Local Wildlife Sites. Lists of priority habitats and species can be found [here](#). Natural England does not routinely hold species data. Such data should be collected when impacts on priority habitats or species are considered likely.

Consideration should also be given to the potential environmental value of brownfield sites, often found in urban areas and former industrial land. Sites can be checked against the (draft) national Open Mosaic Habitat (OMH) inventory published by Natural England and freely available to [download](#). Further information is also available [here](#).

Ancient Woodland, ancient and veteran trees

Ancient woodland is an irreplaceable habitat of great importance for its wildlife, its history, and the contribution it makes to our diverse landscapes. Paragraph 180 of the NPPF sets out the highest level of protection for irreplaceable habitats and development should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.

Natural England maintains the Ancient Woodland [Inventory](#) which can help identify ancient woodland. The [wood pasture and parkland inventory](#) sets out information on wood pasture and parkland.

The [ancient tree inventory](#) provides information on the location of ancient and veteran trees.

Natural England and the Forestry Commission have prepared [standing advice](#) on ancient woodland, ancient and veteran trees.

Protected Species

The conservation of species protected under the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017 is explained in Part IV and Annex A of Government Circular 06/2005 [Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System](#).

Natural England has adopted [standing advice](#) for protected species, which includes guidance on survey and mitigation measures. A separate protected species licence from Natural England or Defra may also be required.

Natural England does not hold comprehensive information regarding the locations of species protected by law. [CPERC](#) is likely to hold much of the available data on such species.

Consideration should be given to the wider context of the site, for example in terms of habitat linkages and protected species populations in the wider area.

District level licensing (DLL) is a type of strategic mitigation licence for great crested newts (GCN) granted in certain areas at a local authority or wider scale. A [DLL scheme for GCN](#) may be in place at the location of the development site. If a DLL scheme is in place, developers can make a financial contribution to strategic, off-site habitat compensation instead of applying for a separate licence or carrying out individual detailed surveys. By demonstrating that DLL will be used, impacts on GCN can be scoped out of detailed assessment.

Local Biodiversity Action Plans (LBAPs)

LBAPs identify the local action needed to deliver UK targets for habitats and species. They also identify targets for other habitats and species of local importance and can provide a useful blueprint for biodiversity enhancement in any particular area. Local Geodiversity Action Plans (LGAPS) identify agreed local action for geodiversity, a list of active LGAPS can be found at UK Geodiversity Action Plan (<http://www.ukgap.org.uk/getting-involved/lgaps.aspx>)

Biodiversity net gain

Paragraph 174 of the NPPF states that decisions should contribute to and enhance the natural and local environment by minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

Biodiversity Net Gain is additional to statutory requirements relating to designated nature conservation sites and protected species. An appropriate biodiversity metric such as [Biodiversity Metric 3.0](#) should be used together with ecological advice to calculate the change in biodiversity resulting from proposed development and demonstrate how proposals can achieve a net gain.

Biodiversity Net Gain outcomes can be achieved on site, off-site or through a combination of both. On-site provision should be considered first. Delivery should create or enhance habitats of equal or higher value. When delivering net gain, opportunities should be sought to link delivery to relevant plans or strategies e.g. Green Infrastructure Strategies or Local Nature Recovery Strategies.

Opportunities for wider environmental gains should also be considered with particular reference to the [Nature Recovery Network](#). National Habitats Network mapping is available to view on [Magic](#).

Landscape

The [Magic](#) website provides data on the extent of protected landscapes (National Parks and Areas of Outstanding Natural Beauty).

National Park/Area of Outstanding Natural Beauty Management Plans may also be a source of useful evidence. These are usually found on these organisations websites.

We encourage the use of Landscape Character Assessment (LCA), based on the good practice guidelines produced jointly by the Landscape Institute and Institute of Environmental Assessment in 2013. LCA provides a sound basis for guiding, informing, and understanding the ability of any location to accommodate change and to make positive proposals for conserving, enhancing or regenerating character.

Data on tranquillity is held by [CPRE](#). They also hold mapping data on [light pollution](#).

Heritage Landscapes

The ES should include an assessment of the impacts on any land in the area affected by the development which qualifies for conditional exemption from capital taxes on the grounds of outstanding scenic, scientific, or historic interest. An up-to-date list is available at www.hmrc.gov.uk/heritage/lbsearch.htm.

Access

The [Magic](#) website holds the following access related data: National Trails, Public Rights of Way (on the Ordnance Survey base map), Open Access Land (the Countryside and Rights of Way Act 2000 layer), together with national and local nature reserves, country parks and the England Coast Path.

Locally held data will include the definitive Public Rights of Way, and may include Rights of Way Improvement Plans where they exist, and any locally mapped open space audits or assessments.

Natural England's work on Accessible Natural Greenspace Standards (ANGSt) may be of use in assessing current level of accessible natural greenspace and planning improved provision.

Measures to help people to better access the countryside for quiet enjoyment and opportunities to connect with nature should be considered. Such measures could include reinstating existing footpaths or the creation of new footpaths, cycleways, and bridleways. Links to other green networks and, where appropriate, urban fringe areas should also be explored to help promote the creation of wider green infrastructure. Access to nature within the development site should also be considered, including the role that natural links have in connecting habitats and providing potential pathways for movements of species.

Relevant aspects of local authority green infrastructure strategies should be incorporated where appropriate.

Soils

A provisional Agricultural Land Classification (ALC) map is on [Magic](#), and the GIS layer 'Likelihood of Best and Most Versatile Land' is available on request from Natural England via email; NaturalEnglandGIDataManagers@naturalengland.org.uk

Some areas already have detailed ALC maps. The coverage of existing detailed MAFF post 1988 ALC surveys is shown on Magic. The MAFF post 1988 ALC survey reports and maps themselves are available from Natural England or from Gov.UK.

Cambridgeshire and Peterborough includes a significant proportion of East Anglia's lowland peat soil resource. Peat soils are a significant carbon store and can help to mitigate against climate change. The imminent threat to the fenland peat soils, due to current land management practices, are identified in Defra's 25 Year Environment Plan and the [UK Peatland Strategy 2018 - 2040](#). Plans and projects should promote the sustainable use and management of peat soils, to ensure

their protection and minimise production of carbon emissions through their loss and degradation. Plan policy requirements should ensure that relevant development contributes to the enhancement of degraded peat soils to deliver a wide range of environmental services.

Climate Change

Consideration should be given to the potential for plans, policies and projects to affect the ability of the natural environment (including habitats, species, and natural processes) to adapt to climate change, including its ability to provide adaptation for people. This should include impacts on the vulnerability or resilience of a natural feature (i.e. what's already there and affected) as well as impacts on how the environment can accommodate change for both nature and people, for example whether the development affects species ability to move and adapt. Nature-based solutions, such as providing green infrastructure on-site and in the surrounding area (e.g. to adapt to flooding, drought and heatwave events), habitat creation and peatland restoration, should be considered. The assessment should set out the measures that will be adopted to address impacts.

Further information is available from the [Committee on Climate Change's \(CCC\) Independent Assessment of UK Climate Risk](#), the [National Adaptation Programme \(NAP\)](#), the [Climate Change Impacts Report Cards](#) (biodiversity, infrastructure, water etc.) and the [UKCP18 climate projections](#).

The Natural England and RSPB [Climate Change Adaptation Manual](#) (2020) provides extensive information on climate change impacts and adaptation for the natural environment and adaptation focussed nature-based solutions for people. It includes the Landscape Scale Climate Change Assessment Method that can help assess impacts and vulnerabilities on natural environment features and identify adaptation actions. Natural England's [Nature Networks Evidence Handbook](#) (2020) also provides extensive information on planning and delivering nature networks for people and biodiversity.

Consideration should be given to the effects of development on the natural environment's ability to store and sequester greenhouse gases, in relation to climate change mitigation and the natural environment's contribution to achieving net zero by 2050. Natural England's [Carbon Storage and Sequestration by Habitat report](#) (2021) and the British Ecological Society's [nature-based solutions report](#) (2021) provide further information.

Water

Plans should account for demand on water resources, increased flood risk and changes in water quantity and quality. Particular consideration should be given to potential pathways for effects on water-dependent designated sites and priority habitats. Adverse effects should be avoided and opportunities sought to enhance freshwater habitats.

The maintenance of a sustainable water supply is a particular issue across much of Cambridgeshire. The effects of groundwater abstraction and climate change are already evident for many water-dependent designated sites and priority habitats.

Air Quality

Air quality in the UK has improved over recent decades but air pollution remains a significant issue. For example, approximately 85% of protected nature conservation sites are currently in exceedance of nitrogen levels where harm is expected (critical load) and approximately 87% of sites exceed the level of ammonia where harm is expected for lower plants (critical level of 1µg)^[1]. A priority action in the England Biodiversity Strategy is to reduce air pollution impacts on biodiversity. The Government's Clean Air Strategy also has a number of targets to reduce emissions including to reduce damaging deposition of reactive forms of nitrogen by 17% over England's protected priority sensitive habitats by 2030, to reduce emissions of ammonia against the 2005 baseline by 16% by 2030 and to reduce emissions of NO_x and SO₂ against a 2005 baseline of 73% and 88% respectively by 2030. Shared Nitrogen Action Plans (SNAPs) have also been identified as a tool to reduce environmental damage from air pollution.

[1] [Report: Trends Report 2020: Trends in critical load and critical level exceedances in the UK - Defra, UK](#)

Further information on air pollution impacts and the sensitivity of different habitats/designated sites can be found on the Air Pollution Information System (www.apis.ac.uk).

Contribution to local environmental initiatives and priorities

Consideration should be given to opportunities to contribute towards relevant local environmental initiatives and priorities to enhance the environmental quality of the development and deliver wider environmental gains. A particular focus for the Plan should be the [Nature Recovery Network](#) and the [Cambridge Nature Network](#). National Habitats Network mapping is available to view on [Magic](#).

Consideration should also be given to the following:

- The Cambridgeshire Biodiversity Partnership's [Mapping Natural Capital and Opportunities for Habitat Creation in Cambridgeshire](#) (May 2019)
- Combined Authority Doubling Nature Investment Plan
- Cambridgeshire and Peterborough Non-Statutory Strategic Spatial Framework
- the objectives and projects in the [Cambridgeshire Green Infrastructure Strategy](#)
- Cambridgeshire Rights of Way Improvement Plan.

Cumulative and in-combination effects

The assessment should identify, describe, and evaluate the effects that are likely to result from the project in combination with other projects and activities that are being, have been or will be carried out. The following types of projects should be included in such an assessment (subject to available information):

- a. existing completed projects;
- b. approved but uncompleted projects;
- c. ongoing activities;
- d. plans or projects for which an application has been made and which are under consideration by the consenting authorities; and
- e. plans and projects which are reasonably foreseeable, i.e. projects for which an application has not yet been submitted, but which are likely to progress before completion of the development and for which sufficient information is available to assess the likelihood of cumulative and in-combination effects.

C Assessment of Policies (from 2020 LTP)

Extracts from Cambridgeshire and Peterborough Combined Authority, SEA - Environmental Report (Mott MacDonald, May 2020)

6 Assessment of the LTP

6.1 Assessment Process

This section presents the results of the assessment of the Cambridgeshire and Peterborough LTP policies and projects. The assessment was undertaken using the assessment methodology presented below.

6.1.1 Scope of the Assessment

Spatial scope - The proposed study area for the SEA of the LTP covers the Cambridgeshire County Council boundary and the four Districts (Fenland, Huntingdonshire, East Cambridgeshire and South Cambridgeshire), Cambridge City Council, and Peterborough City Council Boundary (see Figure 2 in Section 2.2).

Temporal scope - The LTP sets out a long-term transport strategy for Cambridgeshire and Peterborough to 2050.

Technical scope - The SEA Directive and the SEA regulations require that the likely significant effects on the environment are assessed based on the topics listed below. All the topics have been scoped into the SEA including:

- Air – air quality
- Biodiversity, Flora, Fauna – designated and non-designated sites, species and habitats
- Climatic factors – climate projections, greenhouse gas emissions, climate resilience
- Historic Environment - architectural and archaeological heritage and historic landscapes
- Human health – health and wellbeing
- Landscape – designated and non-designated national and local landscapes
- Material assets – critical infrastructure, transport, housing
- Population – demographics, economy, deprivation
- Soil – soil quality, agricultural land, contamination
- Water – water quality and water resources, flood risk
- The interrelationship between these factors

6.1.2 Identification and Prediction of Effects

The LTP consists of policies and projects, designed to deliver the Plan's objectives. The SEA has assessed the environmental implications of the proposed LTP policies. The majority of the projects proposed for inclusion in the LTP are taken from the previous Cambridgeshire and Peterborough LTPs and therefore, have already been subject to SEA. These projects were only re-assessed if either the project or baseline had changed. Some of these projects have progressed to design or construction stage, in which case they can be considered part of the baseline. New or amended projects were subject to a full assessment.

6.1.3 Determining Significance of Effects

The assessment was based on a qualitative eight-point scale as presented in Table 9 to describe the significance of effects.

Moderate and major positive and negative effects have been considered of significance whereas no effect and minor positive and negative effects have been considered non-significant.

Table 9: Criteria for Assessing Significance of Effects

Assessment Scale	Significance of Effect
+++	Major positive effect
++	Moderate positive effect
+	Minor positive effect
0	Neutral or no effect
-	Minor negative effect
--	Moderate negative effect
---	Major negative effect
?	Requires further classification at this stage

It should be noted that in some instances more than one score was recorded e.g. + / - or ? / -. This occurred where effects were both positive and negative on the same receptor, or where there was uncertainty over the effect but the potential for either positive or negative effects.

The level of significance was assigned after considering the scale and magnitude of the identified effect against the importance of the receptor. Table 10 shows how the scale/magnitude was considered against the importance of the receptor being considered. The list of receptors given in the table is not exhaustive but provides examples of how the magnitude of predicted effects was considered to determine the significance of impacts. The significance of impacts was not clear cut in each case, and professional judgement was used in some cases to determine overall significance.

Table 10: Defining Magnitude of Effects

Magnitude	Description of Effect
High	Negative effects would result in the complete loss of the receptor and/or severe damage to its integrity/quality/key characteristics/features/elements
	Positive effects would result in a large-scale improvement, enhancement or restoration of a receptor, large scale improvements to integrity/quality, or creation of a new internationally/nationally important resource
Medium	Negative effects would result in some loss of or damage to the receptor, but not sufficient to adversely affect its overall integrity. Partial loss of or damage to quality/key characteristics/ features/elements
	Positive effects would result in some improvement, enhancement or restoration of a receptor, improvements to integrity/quality, or creation of a new regionally important resource
Low	Negative effects would result in some measurable change to the receptor and/or change in quality or alteration of one or more key characteristics/ features/elements
	Positive effects would result in a small improvement to or addition of one or more key characteristics/ features/elements. Creation of a new locally important receptor/resource

6.1.4 Incorporating results of other assessments into the SEA

As discussed in the Section 1.1, a HRA and CIA (incorporating HIA and EqIA) are being undertaken alongside the SEA as part of the LTP development.

HRA

Under the European Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (also known as the 'Habitats Directive'), and the resulting Conservation of Habitats and Species Regulations 2010 (as amended), a HRA is required where a plan may

give rise to significant effects on European designated sites, known as Natura 2000 sites. Natura 2000 sites consist of Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar sites, and also include potential SPA and candidate SAC. A HRA 'Task 1: Screening' (Test of Likely Significance) has been undertaken for the draft LTP. The results of the HRA screening were used to inform the SEA by feeding into the assessment under objectives on ecology and biodiversity, and water quality.

CIA

The CIA sets out the key potential social and community impacts of the LTP. The process was centred on the delivery of two key documents – the EqIA and the HIA – but draws the findings of those studies together alongside additional evidence and analysis not covered by them and focussed on social impacts as defined within Environmental Impact Assessment (EIA) regulations regarding population and health, and WebTAG appraisal guidance. The primary focus was on the impact of the LTP on areas of deprivation, and on those reliant on the transport network for access to social and economic opportunity. The findings from the CIA were used to help inform the SEA by feeding into the assessment under objectives on population and human health.

6.2 Assessment of LTP Policies

Table 11 to Table 21 provide a summary of the LTP policy assessment results, grouped according to the LTP objective they sit under, and a commentary on the potential effects is presented below each summary table. The full assessment tables are presented in Appendix G.

It should be noted that a summary version of the SEA objectives has been used in the assessment tables below. The full wording of the SEA objectives can be found in Table 4.

6.2.1 Objective 1: Support new housing and development to accommodate a growing population and workforce, and address housing affordability issues

Table 11: Policy Assessment Summary – Objective 1 Policies

LTP policy	SEA Objectives														
	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 1.1: Enabling development															
Policy 1.1.1: Deliver strategic transport and complementary connectivity infrastructure	- / +	- / +	++	++	- / ++	? / --	? / -	? / -	? / --	? / -	? / -	- / ++	- / +	? / -	+
Policy 1.1.2: Early engagement with developers	+	+	+	++	+	0	0	0	0	0	0	+	+	+	0
Policy 1.1.3: Secure developer contributions for strategic and local infrastructure	+	++	++	++	++	? / -	? / -	? / -	? / -	? / -	? / -	+	+	? / -	+

Summary

All the policies aim to incentivise development and open-up new and existing areas of land through investment in and planning of transport. The policies aim to ensure developments are well-connected through sustainable transport modes which will have positive effects for health, accessibility, reduced congestion, improved air quality and GHG emissions reduction, and benefits for the local economy. All the policies aim to ensure new developments are well-connected, helping connect housing developments with employment centres, improving the efficiency of the transport network for residents in these areas, and opening up development land.

Policy 1.1.1 contains a number of road, rail and light rail related projects which will have the potential to have mixed effects on health of the local population, safety of the transport network, air quality and GHG emissions. The road schemes may lead to a reduction in congestion, however it may also attract additional vehicles. The rail schemes will promote the use of public transport and have the potential to reduce the reliance on private cars. The policy will likely have a benefit to the local economy and accessibility by making the transport network more efficient and reliable. There is potential for the policy to have negative effects on biodiversity, the setting of the historic environment, landscape, soils, the water environment, flood risk and climate resilience given the proposal include new transport infrastructure.

Policy 1.1.2 will help ensure developers properly plan transport infrastructure and connections for new developments. It promotes communication with developers throughout the planning process to ensure developers plan for appropriate phasing of development and future growth to potentially avoid congestion and improve accessibility in growth areas. The policy could also have an indirect positive effect on climate resilience, as early engagement

with developers could include consideration of future climate change effects within scheme design, however, this has been scored as neutral as the policy does not specify what early engagement will cover.

Policy 1.1.3 sets out the requirement for developer contributions are sought for strategic and local infrastructure where appropriate. This includes improving or constructing new transport infrastructure which therefore has the potential to negatively affect biodiversity, the setting of the historic environment, landscape, soils, the water environment, flood risk and climate resilience. There is potential for the health and safety of the road network to be improved as the policy contains requirements that new developments are accessibility in a safe manner and that impacts on the transport network are mitigated. The policy is also likely to increase accessibility by ensuring new developments are well connected and will also likely have benefits for the local economy.

6.2.2 Objective 2: Connect all new and existing communities sustainably so all residents can easily access a good job within 30 minutes, spreading the region’s prosperity

Table 12: Policy Assessment Summary – Objective 2 Policies

	SEA Objectives														
LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 2.1: Planning and Designing Developments Sustainability															
Policy 2.1.1 Support the provision of sustainable connectivity to and within developments	++	+	++	+	+++	+	0	+	0	0	0	++	+	0	+
Policy 2.1.2 Ensure developers provide sufficient transport capacity and connectivity to support and meet the requirements arising from development	++	++	++	+	++	+	0	+	0	0	0	++	+	0	+
Policy 2.1.3 The design of parking (see also policy theme 19)	++	++	+	+	++	+	0	+	0	0	0	++	+	0	+
Policy Theme 2.2: Expanding Labour Markets															
Policy 2.2.1 Support measures to reduce peak demand on the highway network	++	+	+	+	++	? / -	? / -	? / -	? / -	? / -	? / -	++	++	? / -	+
Policy 2.2.2 Improve the accessibility and connectivity of our public transport links to expand our labour market catchments	++	+	+++	+++	++	? / --	? / --	? / --	? / -	? / -	? / -	+++	+++	? / -	- / +
Policy 2.2.3 Invest in our highway network to improve accessibility	- / +	- / +	++	+++	- / ++	? / --	? / -	? / --	? / -	? / -	? / -	- / +	- / +	? / -	- / +

Summary

Policy Theme 2.1 promotes the sustainable connectivity to and within developments. Policy 2.1.1 aims to reduce the need to travel, particularly for long distances, which is likely to have benefits for health, the safety of the transport network, accessibility, reduced congestion, air quality and GHG emissions. It also aims to improve accessibility for those with mobility issues which is likely to have benefits on the health of these transport users. Policies 2.1.2 aims to mitigate residual cumulative impacts on any element of the transportation network including highway safety and Policy 2.1.3 aims to ensure parking design is safe for all road users and ensure proximity of spaces for Blue Badge holders in relation to key services, therefore direct positive effects are anticipated for the health and safety of the road network. Policy 2.1.3 also aims to provide opportunities for safe walking and cycling which will likely benefit health of the local community and well as improve road safety. Electric and low-emission vehicles are also promoted through Policy 2.1.2 and 2.1.3. There is also potential for indirect effects on biodiversity as a result of all three policies given they have the potential to reduce the number of cars on the road. There are unlikely to be any effects on the historic environment or its setting, soils, the water environment, flood risk and climate resilience from any of the policies.

Policy Theme 2.2 promotes highway improvements and accessibility, and improved connectivity of public transport to expand labour market areas. Policies 2.2.2 and 2.2.3 have the potential to significantly increase accessibility within the region and also provide additional links to a wider area. This is likely to have benefits for the economy, making the region more attractive for business as well as providing new opportunities for employment and driving growth through improved public transport and road access. Health benefits may also occur from improved accessibility. The policies are also likely to result in air quality improvement and reductions in GHG emissions through reduce congestions and the promotion of public transport. There is potential for the policies to have negative effects on biodiversity, the historic environment and its setting, the landscape and townscape, the water environment and flooding given they include proposals to construct new transport infrastructure. Effects will depend on the location, design, and mitigation for projects. The road capacity improvement project as part of Policy 2.2.3 may result in mixed effects as there is potential for congestion to be reduced, however they may attract additional vehicles.

6.2.3 Objective 3: Ensure all of our region’s businesses and tourist attractions are connected sustainably to our main transport hubs, ports and airports

Table 13: Policy Assessment Summary – Objective 3 Policies

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 3.1: Accessing Ports and Airports															
Policy 3.1.1 Support improvements to our transport infrastructure to enable efficient access for freight travelling to Felixstowe and Harwich, particularly by rail	+	+	0	+++	++	? / - -	? / -	? / -	? / -	? / -	? / -	++	++	? / -	++
Policy 3.1.2 Support improved road and rail connectivity to nearby airports, in particular at Stansted	+	+	++	+++	++	? / - -	? / -	? / -	? / -	? / -	? / -	++	++	? / -	++
Policy 3.1.3 Support the region’s visitor economy through efficient passenger connectivity at Harwich	0	0	++	+++	0	0	0	0	0	0	0	0	0	0	++
Policy 3.1.4 Work in partnership with port and airport operators to encourage sustainable commuting patterns to their sites for workers commuting from within the Combined Authority	+	+	++	+	++	0	0	0	0	0	0	+	+	0	++
Policy Theme 3.2: Supporting the Local Visitor Economy															
Policy 3.2.1 Improving connectivity to international gateways and larger centres	+	+	++	+++	+	0	0	0	0	0	0	+	+	0	+
Policy 3.2.2 Delivering an integrated transport network easily navigable for those visiting the region for the first time	+	+	+	+	+	0	0	0	0	0	0	+	+	0	+
Policy 3.2.3 Delivering sustainable transport connectivity to tourist destinations in rural areas	+	+	++	+++	+	0	0	?	?	0	0	+	+	0	+
Policy 3.2.4 Providing sufficient space and appropriate infrastructure for coach services to manage the impacts of day visitors on our highway and parking infrastructure	+	+	+	++	+	0	0	0	0	0	0	+	+	0	+
Policy Theme 3.3: Supporting Business Clusters															
Policy 3.3.1 Invest in our rail and highway networks to allow our firms, organisations and workers to trade and travel easily across the country and abroad	- / +	+	+++	+++	- / ++	? / - -	? / -	? / -	? / -	? / -	? / -	- / +	- / +	0	+
Policy 3.3.2 Improve local connectivity to bring firms and organisations in our towns and cities closer together	+	+	+++	+++	++	?	?	?	?	?	?	++	++	0	+

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 3.4: Freight															
Policy 3.4.1 Promoting rail freight	+	+	0	++	++	+	0	0	0	0	0	++	++	0	+
Policy 3.4.2 Promoting and enforcing appropriate Heavy Commercial Vehicle routing	+	+	0	+	+	0	0	0	0	0	0	0	0	0	+
Policy 3.4.3 Promoting sustainable urban freight distribution	+	+	0	+	+	+	0	0	0	0	0	++	+	0	0
Policy 3.4.4 Improving road freight facilities	+	++	0	+	0	+	0	0	0	0	?	+	+	0	0
Policy 3.4.5 Supporting efficient air freight and the aviation sector	0	0	0	+	0	0	0	0	0	0	0	+	+	0	0

Summary

Policy Theme 3.1 supports improvements to road and rail connections to and from the ports at Felixstowe and Harwich and nearby airports such as Stansted to increase accessibility and the efficiency of the transport for freight, business travel, visitors, and port and airport employees. All four policies have the potential to contribute to economic growth in the area, particularly Policies 3.1.1, 3.1.2 and 3.1.3. Accessibility within the region and also to other areas within the country as well as international destinations will be improved as a result of these policies. This will likely lead to benefits for the local economy with Policies 3.1.1, 3.1.2 and 3.1.3 particularly contributing to this. Policies 3.1.1, 3.1.2 and 3.1.4 also have the potential to improve air quality and reduce GHG emissions which could also result in health benefits. Given that Policy 3.1.1 and 3.1.2 includes measures to upgrade both rail and road infrastructure there is potential for negative effects on biodiversity, the setting of the historic environment, landscape, soils, the water environment and flooding. Effects will depend on the location, design, and mitigation for projects.

Policy Theme 3.2 supports the visitor economy by improving accessibility, connectivity and integration of the transport network for visitors to the region. The four policies aim to improve the public transport network, especially for tourists, making it more attractive and easier to use and therefore potentially leading to a reduction in the use of private cars/hire cars. This would have benefits for air quality and health, GHG emissions reduction, congestion, and road health and safety. The policies will increase the connectivity and accessibility of the region's public transport to key entry points and rural tourist destinations. This will make access easier for visitors but will also have benefits for residents when having days out, going on holiday, or travelling for business. This will contribute to economic growth, especially through the tourism industry and may also have benefits for business travel connectivity. The policies have the potential to result in indirect benefits for biodiversity and the setting of the historic environment due to a reduction in car use and increased access leading to increased visitor numbers which could have benefits for the maintenance, protection and public awareness of these areas. However, demands of tourism, for example visitors to designated sites, will need to be balanced with ecological/heritage protection to avoid damage to these areas.

Policy Theme 3.3 aims to improve highway and public transport provision for businesses to encourage investment and easy trade and travel between areas and abroad. The policies are likely to increase accessibility through improvements to the road network alongside upgrades to public and active transport infrastructure. Economic benefits are also likely through improved links with the wider network and Policy 3.3.2 aims to connect business cluster areas with active and sustainable modes of transport. There is also likely to be improvements to air quality as a result of the policies reducing congestion and potentially reducing the number of journeys made by vehicles. However, the road projects within Policy 3.3.1 also have the potential to increase vehicle numbers through capacity improvements therefore mixed effects have been identified. The potential for negative effects have been identified for biodiversity, historic environment and its setting, water environment, landscape and townscape, soils and flooding due to new infrastructure and upgrade works. Effects will depend on the location, design, and mitigation for projects.

Policy Theme 3.4 promotes sustainable freight movements. There is potential for Policies 3.4.1, 3.4.2, 3.4.3 and 3.4.4 to have benefits on health given that they will potentially improve air quality. Policy 3.4.1 and 3.4.3 in particular will result in improvements in air quality through reduce goods vehicles on the road, making the freight network in the region more sustainable and through the introduction of a Low Emission Zone. There is likely to be positive effects on the economy as the transport network will be more efficient as a result of all the policies due to the importance of freight to the local economy. Policies 3.4.1, 3.4.2 and 3.4.3 also have the potential to reduce congestion on the road network. Indirect positive effects for biodiversity may occur as a result of a reduction in goods vehicles on the road as well as through the promote of electric vehicles as a result of Policies 3.4.1, 3.4.2 and 3.4.3.

6.2.4 Objective 4: Building a transport network that is resilient and adaptive to human and environmental disruption, improving journey time reliability

Table 14: Policy Assessment Summary – Objective 4 Policies

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 4.1: Building a Resilient and Adaptive Transport Network to Climate Change															
Policy 4.1.1 Managing the risks to the transport network presented by climate change	+	+	++	++	0	+	0	0	0	0	+++	+	+	+++	++
Policy 4.1.2 Sustainable road network maintenance	+	+	++	++	0	0	0	0	0	+	++	++	++	+++	++
Policy 4.1.3 Utilising proven technologies as they become available to help the transport network adapt to the challenges presented by climate change	+	+	+	++	0	0	0	0	0	0	++	+	+	+++	++
Policy Theme 4.2: Maintaining and Managing the Transport Network															

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
4.2.1 Investigating the feasibility of harmonising highways and transport asset maintenance standards and performance indicators	+	++	0	+	0	0	0	0	0	0	0	+	+	0	+++
4.2.2 Supporting highway authorities in minimising the whole life costs of the highway	+	+	0	+	0	0	0	0	0	0	+	++	+	++	+++
4.2.3 Addressing the challenges of climate change and enhancing our communities and environment	+	+	+	+	0	0	0	0	0	0	0	+	++	++	+++

Summary

Policy Theme 4.1 aims to ensure the transport network is resilient and adaptive to climate change effects. The policies are likely to reduce the vulnerability of the transport network to climate change and increase accessibility by preventing travel disruption and severance. By building resilience into the network, the lifespan of the transport infrastructure is likely to be increased and the health and safety of the network is also likely to be improved. This will have benefits for health, access and the economy. All three policies are likely to have positive effects on air quality and minimising GHG emissions as they aim to increase the resilience of the transport network, reducing the need for maintenance and new transport infrastructure. Policy 4.1.2 aims to encourage sustainable and adaptive design principles which includes the consideration of air quality into the design of the road schemes. It also aims to promote the use of sustainable materials with less environmental impacts in terms of their lifecycle. All three policies will have positive effects on flooding, but Policy 4.1.1 is likely to be more significant as it seeks to ensure changes or improvements to one section of the transport infrastructure does not exacerbate flood effects elsewhere.

Policy Theme 4.2 aims to improve highway maintenance and use of materials. Selecting design and materials with low emissions and careful timing of maintenance activities will reduce congestion associated with roadworks, which may have positive effects for health from reduce emissions from idling vehicles and reduced driver stress. All three policies will have major positive effects on the use and lifespan of existing transport infrastructure by prioritising maintenance setup, development of KPIs (Policy 4.2.1); standardisation of materials, sustainable and adaptive design principles (Policy 4.2.2); and actively considering climate change adaptation (Policy 4.2.3). Vulnerability to climate change is expected to be reduced through sustainable and adaptive design measures that consider climate change under Policy 4.2.2. Asset management that actively considers highways or other assets that are susceptible to climate change with maintenance regimes adapted for them under Policy 4.2.3 will have benefits for asset resilience. Policy 4.2.1 is likely to improve road safety and reduce accidents through improved maintenance of highways which should help maintain their good condition. The installation of smart methods of infrastructure monitoring under Policy 4.2.2 will contribute indirectly to road safety through automating alerts. Coordination of roadworks and implementation of safe design measures under Policy 4.2.3 will minimise disruption on the network and improve safety.

6.2.5 Objective 5: Embed a safe systems approach into all planning and transport operations to achieve Vision Zero – zero fatalities or serious injuries

Table 15: Policy Assessment Summary – Objective 5 Policies
SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 5.1: Safety for all – a Safe Systems Approach															
Policy 5.1.1 A multi-agency approach to improving road safety	++	+++	+	+	+	0	0	0	0	0	0	+	+	0	0
Policy 5.1.2 Continuous and comprehensive monitoring and evaluation of key road safety indicators	++	+++	+	+	+	0	0	0	0	0	0	+	+	0	0
Policy 5.1.3 Support improvement in road user behaviour through education, training and publicity programmes	++	+++	+	+	+	0	0	0	0	0	0	+	+	0	0
Policy 5.1.4 Adoption of the Safe System Approach into the mainstream of highway engineering	++	+++	+	+	+	0	0	0	0	0	0	+	+	0	0
Policy Theme 5.2: Ensuring Transport Security															
Policy 5.2.1 Addressing personal safety and security issues	++	+++	++	++	++	-	0	0	0	0	0	+	+	0	+
Policy 5.2.2 Improving the security of public transport stops, stations and hubs	++	+++	++	++	+	+	0	0	0	0	0	+	+	0	+

Summary

Policy Theme 5.1 aims to improve the safety of the transport network. Moderate positive effects on health of the population is expected from the prevention and minimisation of injuries and death from road accidents through the promotion of road safety (Policy 5.1.1 and 5.1.3), monitoring (Policy 5.1.2) and review of road designs to conform with Safe System principles, such as speed limits (Policy 5.1.4). Major positive effects are expected on the safety of the transport network with collaboration between agencies and public service providers (Policy 5.1.1) to deliver a holistic road safety partnership. Both Policies 5.1.2 and 5.1.4 will involve the review, evaluation and monitoring of road safety with risk mapping leading to safety intervention, all of which are expected to improve safety of the transport network and thereby reducing accidents. Road safety courses and publicity campaigns (Policy 5.1.3) will have benefits through improved road user’s behaviour leading to reduced accidents. There is likely to be minor positive effects on the support and contribution to local economic growth via increased road safety, reduced road accidents which may cause congestions (Policy 5.1.1, 5.1.2 and 5.1.4), thus improving efficiency of transport networks. Improved road user behaviour from education (Policy 5.1.3) may also

decrease the likelihood of accidents. All policies are expected to have an indirect minor positive effect on local air quality from the potential reduction of road accidents which cause congestions and idling emissions.

Policy Theme 5.2 aims to address personal safety and security issues on the transport network to make it more attractive and safer for users. Both policies address crime and fear of crime around transport which may improve accessibility, promote public transport use and contribute to reducing congestion. These policies could have the potential to have a major effect on people’s willingness to travel and their ability to access jobs and key services. Personal security is important in enabling people to feel comfortable about walking, cycling, and using public transport, taxis and private hire vehicles. Policy 5.2.1 addresses evening, night time and early morning safety issues reducing fear of crime around transport. It also aims to target security enhancements through CCTV cameras at crime ‘hotspots’. Policy 5.2.2. aims to work with public transport operators, police, community safety partnerships and passenger and user groups to tackle crime and anti-social behaviour at stops and stations particularly for vulnerable groups. These policies can therefore improve accessibility, promote public transport use and contribute to reducing congestion but can also benefit the local economy, especially the night-time economy, by helping people to make the journeys they want, when they want. There are also moderate positive health effects created from making cycling and walking safer for all, which both policies aim to achieve. A shift to public transport use and sustainable modes of transport could mean a potential reduction in private car use, which could have benefits for local air quality and GHG emissions. Policy 5.2.1 could have a minor negative impact on biodiversity through managing vegetation if managed poorly, but it would allow for fewer hiding locations.

6.2.6 Objective 6: Promote social inclusion through the provision of a sustainable transport network that is affordable and accessible for all

Table 16: Policy Assessment Summary – Objective 6 Policies

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 6.1: Transport Accessibility for All															
Policy 6.1.1 Supporting and promoting demand-responsive community transport services	+++	0	+++	0	0	0	0	0	0	0	0	0	0	0	+
Policy 6.1.2 Facilitating access to education and wider mobility for vulnerable children	++	0	+++	0	0	0	0	0	0	0	0	0	0	0	+
Policy 6.1.3 Improving the accessibility of transport infrastructure	+++	0	+++	0	0	0	0	0	0	0	0	0	0	0	0
Policy 6.1.4 Promoting the provision of accessible transport information	+++	0	+++	0	0	0	0	0	0	0	0	0	0	0	0

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy 6.1.5 Optimise the use of new technologies in improving accessibility	+++	0	+++	0	0	0	0	0	0	0	0	0	0	0	0
Policy Theme 6.2: Transport Pricing and Affordability															
Policy 6.2.1: Improve our public transport to provide an affordable alternative to the car	+	0	+++	+++	+++	0	0	0	0	0	0	++	++	0	0
Policy 6.2.2: Increase the affordability of travelling by bus and rail	+	0	+++	+	+++	0	0	0	0	0	0	++	++	0	0
Policy Theme 6.3: Access to Education and Key Services															
Policy 6.3.1 Access to Education	+	+	++	+	++	+	0	0	0	0	0	+	+	0	0
Policy 6.3.2 Access to non-emergency health and social care, and other key services and amenities	++	0	++	+	++	+	0	0	0	0	0	+	+	0	0
Policy 6.3.3 Digital inclusion	+	0	+	0	+	+	0	0	0	0	0	+	+	0	0
Policy Theme 6.4: The Future of Mobility															
Policy 6.4.1 Promote and support research, innovation and engagement work undertaken by Smart Cambridge	+	+	+	+	+	0	0	0	0	0	0	+	+	0	0
Policy 6.4.2 Provide the infrastructure which will enable the uptake and optimisation of new transport and digital connectivity technologies	+	+	+	+	+	0	0	0	0	0	0	+	+	0	0
Policy 6.4.3 Guiding the development of a regulatory framework under which new transport technology providers operate	+	+	++	+	+	0	0	0	0	0	0	+	+	0	0

Summary

Policy Theme 6.1 aims to increase the accessibility of the transport network for all including mobility impaired and vulnerable groups. All the policies will have positive effects on improving accessibility to key services, employment and recreational areas through increasing accessibility for all particularly vulnerable groups who may face barriers to accessing facilities, this will also help improve people’s health and wellbeing. Policy 6.1.1 supports community transport which will help fill the gaps in public transport provision. This will particularly help rural communities and the elderly. Policy 6.1.2 aims to improve access to educational facilities for vulnerable children. Policy 6.1.3 aims to ensure transport and movement is accessible for all including vulnerable groups and mobility impaired persons and particularly looks at improving links to hospitals and health care facilities. Policy 6.1.4 aims to increase provision of accessible transport information, so that more people and groups are aware of the services they can use. Policy 6.1.5 aims to ensure certain groups are not accidentally ‘designed out’ of being able to access transport and that accessibility, social inclusion and quality of life is improved for all.

Policy Theme 6.2 aims to ensure fair pricing on the transport network to ensure public transport is an affordable alternative to the car. The policies will improve provision of public transport and will for example make it easier for shift workers to use public transport. Improving the affordability of public transport will help reduce inequalities in certain areas as there will be better access to public transport for deprived communities. These policies are likely to benefit the health and wellbeing of communities. A major positive effect on accessibility is expected from improved services and lower travel costs. Collaboration with and financial support to public transport operators will improve overall service, increasing the reliability and efficiency and the network, contributing the movement of people and the local economy. Policy 6.2.2 will make use of public transport a more affordable option to commute to and from work and may increase access to employment areas. Improved affordability of public transport may potentially reduce the number of car trips required, reducing the amount of vehicular emission, having a positive effect on air quality and GHG emissions reduction.

Policy Theme 6.3 aims to increase access to education and key services through sustainable transport modes. Education can be linked to health therefore improving access to education (Policy 6.3.1) for those in need is likely to result in minor positive effects for the health of these individuals and potentially reduce health inequalities. The policy also aims to encourage active and sustainable modes of transport which can improve health. There is potential for moderate positive effects through Policy 6.3.2 as it is likely to increase inclusion in access to key services, including healthcare, which will likely improve health and reduce inequalities, particularly in rural areas. Digital inclusion through online services (Policy 6.3.3) is also likely to improve health and reduce inequalities as more people will be able to access information and potentially make healthier choices. Policy 6.3.1 has the potential to improve the health and safety of the transport network by supporting Bikeability cycle training for students which could lead to safer cycle travel. There is potential for indirect benefits for the economy through Policy 6.3.1 and Policy 6.3.2 as improving access to education opportunities could increase the labour market. In addition, if there are health improvements through increased access to healthcare, there are also potential benefits for the labour market. Policy 6.3.1 aims to promote sustainable and active methods of travel for students, parents and employees accessing education sites which could reduce congestion. It is likely that Policy 6.3.1 and 6.3.2 will deliver increased access to education, healthcare and other key services through the public transport network. There is also potential for congestion to be reduced through Policy 6.3.2 as it aims to support measures such as car share and cycle buddy networks which promote inclusion. Increasing digital inclusivity (Policy 6.3.3), has the potential to reduce the need for travel as individuals may be able to access key information online rather than travelling.

Policy Theme 6.4 promotes new technologies which may improve future mobility. All the policies promote new transport technologies. These are likely to promote sustainable low and zero forms of transport and smart technologies to reduce congestion and the need to travel. Therefore, long-term positive effects are likely for health and air quality due to reduced emissions associated with transport and indirect benefits for the economy. Policy 6.4.3 specifically mentions promoting the benefits of new transport technology to improve the connectivity of rural and less well-connected urban communities, therefore, benefiting accessibility.

6.2.7 Objective 7: Provide ‘healthy streets’ and high-quality public realm that puts people first and promotes active lifestyles

Table 17: Policy Assessment Summary – Objective 7 Policies

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 7.1: Public Rights of Way and Waterways															
Policy 7.1.1 Align policies for Public Rights of Way across Cambridgeshire and Peterborough	+	0	+	0	+	0	0	+	0	0	0	0	0	0	0
Policy 7.1.2 Improve access to the green spaces for all	++	0	++	0	+	0	0	+	0	0	0	0	0	0	0
Policy 7.1.3 Develop a network which is safe and encourages healthy activities	++	+	+	0	+	0	0	+	0	0	0	0	0	0	0
Policy 7.1.4 Integrate new development into the Public Rights of Way network without damaging the countryside	++	0	++	0	+	0	0	+	0	0	0	0	0	0	0
Policy 7.1.5 Make available high quality, definitive information, maps and records on the network	+	0	+	0	+	0	0	0	0	0	0	0	0	0	0
Policy 7.1.6 Ensure the network is complete to meet the needs of today’s users and land managers	+	0	+	0	+	0	0	+	0	0	0	0	0	0	0
Policy 7.1.7 Support better land and waterway management	++	+	+	0	+	+	+	+	+	0	+	0	0	0	0
Policy Theme 7.2: Promoting and Raising Awareness of Sustainable Transport Options															
Policy 7.2.1 Support travel plan development and implementation of travel plan measures within workplaces so that healthy, safe, low carbon travel options for commuters are actively encouraged and supported	++	0	+	0	++	+	0	0	0	0	0	++	++	0	+
Policy 7.2.2 Ensure the adoption and enforcement of local travel plan guidance, for new planning applications	+	0	+	0	++	+	0	0	0	0	0	++	++	0	+
Policy 7.2.3 Promote existing and new walking and cycling routes to commuters and residents	++	0	+	0	+++	+	0	0	0	0	0	+++	+++	0	+
Policy 7.2.4 Continue to promote cycle training in schools and for adults	++	+	+	0	+++	+	0	0	0	0	0	++	++	0	+
Policy 7.2.5 Improve availability, type and quality of information on sustainable modes ensuring health and air quality benefits are emphasised	++	0	+	0	+++	+	0	0	0	0	0	+++	+++	0	+
Policy Theme 7.3: Supporting and Promoting Health and Wellbeing															

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy 7.3.1 Reducing physical inactivity through active travel infrastructure, education, training and promotion	+++	++	+++	++	+++	+	0	+	0	0	0	++	++	0	0
Policy 7.3.2: Reducing air pollution through supporting zero and low emissions transport options and developing green infrastructure	++	0	0	+	+++	+	0	+	0	0	0	+++	+++	0	0
Policy 7.3.3: Improving street scene / public realm to improve safety	+	++	0	0	0	+	++	++	0	0	0	0	0	0	0
Policy 7.3.4: Increasing ability to access health and social care, and leisure facilities / amenities	++	0	+++	+	+	+	0	0	0	0	0	+	+	0	0
Policy 7.3.5: Increasing ability to access to wider opportunities - employment, social activities	+	++	+++	+++	+	+	0	0	0	0	0	+	+	0	0
Policy 3.4 Reducing Noise Pollution															
Policy 7.4.1 Monitoring and reducing noise pollution from the road network	++	+	0	0	+	+	0	+	0	0	0	++	++	0	0
Policy 7.4.2 Monitoring and reducing noise pollution from airports	+	0	0	0	0	+	0	+	0	0	0	0	0	0	0
Policy 7.4.3 Monitoring and reducing noise pollution from the railway network	+	0	0	0	0	+	0	+	0	0	0	0	0	0	0
Policy 7.4.4 Monitoring and reducing noise pollution from construction	+	0	0	0	0	+	0	+	0	0	0	0	0	0	0

Summary

Policy Theme 7.1 aims to improve access to rights of way and connectivity to the countryside. Overall, all policies directly provide benefits to the health and wellbeing of the population by improving access to and quality of green space, paths for walking and cycling, and encouraging healthy activities along the rights of way network. While most of the recorded benefits of the policies are minor, on a holistic level the policies will provide significant improvements to health and wellbeing of local people, as well as townscape character through perceived 'pride' or 'opinion'. There is likely to be minor positive effects on the biodiversity, heritage, and flood risk as a result of Policy 7.1.7. It aims to both improve waterways to ensure they are more attractive for leisure activities and also includes provisions to consider the need for flood protection, conservation and heritage.

Policy Theme 7.2 aims to promote and raise awareness of sustainable transport options. All the policies aim to encourage use of sustainable travel modes, particularly walking and cycling which are active forms of travel and will have health benefits. If modal shift occurs, then there could be benefit for reduce congestion, GHG emissions, and air quality benefits which would have positive effects for health. Policy 7.2.4 promotes cycle training for children and adults. This may improve the confidence and competence of cyclists on the road, resulting in a safer road environment. Accessibility may

be improved through the promotion of car share and bike loan schemes in Policy 7.2.1. Travel Plan guidance and provision of infrastructure as part of new developments will also assist and improve accessibility to a certain extent. Promotion and provision of walking and cycle routes, and training is expected to increase awareness and access to sustainable modes of transport.

Policy Theme 7.3 aims to support health and wellbeing through encouraging active travel, reducing air pollution and increasing accessibility to health, leisure, employment and social activities and facilities. All five of the policies are likely to have positive effects on improving the health of the population. Policy 7.3.1 aims to give walking and cycling the highest priority when developing streets and roads, promote healthy lifestyles for all demographics and ensure cycle and footpaths are comprehensive. This promotion of active modes of transport will therefore likely have positive health effects. Policy 7.3.2 aims to reduce air pollution, Policy 7.3.4 aims to improve access to healthcare. These all have the potential for moderate positive effects on health and wellbeing. Policy 7.3.1 aims to ensure walking and cycle routes are safe for all and Policy 7.3.3 aims to promote a safe systems approach and deliver transport security through policies. These are likely to improve the safety of the transport network. Policy 7.3.5 also aims to promote a safe network for all. Policy 7.3.5 is likely to have positive effects for the local economy as it aims to increase the affordability and accessibility to employment. Policy 7.3.1 is also likely to contribute to economic growth as residential areas will be more connected to walking and cycling routes as well as to public transport meaning they can potentially access employment easier. Increasing access to health care (Policy 7.3.4) may also indirectly benefit the economy. Policy 7.3.2 may support transition to a low carbon economy. Policy 7.3.2 aims to reduce air pollution through promoting the use of low emission vehicles which is likely to have major benefits for air quality. Policy 7.3.1 also aims to promote active and sustainable modes of transport which is likely to improve air quality. Policy 7.3.4 and 7.3.5 may also improve air quality if improvements to accessibility is achieved through public transport. There is likely to be benefits for the setting of the historic environment and townscape as a result of public realm and streetscape improvements.

Policy Theme 7.4 aims to reduce noise pollution across four key areas (the highway network, airports, the railway network and construction) as noise has linkages with detrimental health effects. As a result, all four policies will likely have a positive effect on health and wellbeing through reducing noise effects. Policy 7.4.1 will likely have additional health benefits as it aims to promote the use of electric vehicles which have the potential to improve air quality and therefore health. Policy 7.4.1 is also likely to have a positive effect on GHG and road congestion through promoting electric vehicles and reducing the number of journeys required. All four policies will likely have a positive effect on the landscape and townscape from a reduction in noise emissions and may also result in indirect positive effects for biodiversity. It is not anticipated that any of the policies will have an effect on accessibility, the economy, the historic environment and its setting, soils, the water environment, flood risk, climate resilience or the reuse of infrastructure.

6.2.8 Objective 8: Ensure transport initiatives improve air quality across the region to meet good practice standards

Table 18: Policy Assessment Summary – Objective 8 Policies

LTP policy	SEA Objectives														
	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 8.1: Improving Air Quality															
Policy 8.1.1 Reducing vehicle emissions	+++	0	0	++	+++	+	0	0	0	0	0	+++	+++	0	+
Policy 8.1.2 Keeping emissions low in the future	+++	0	0	++	++	+	0	0	0	0	0	+++	+++	0	0
Policy 8.1.3 Improving public health	+++	0	+	++	+	0	0	0	0	0	0	+	+	0	0

Summary

Policy Theme 8.1 aims to improve air quality through the reduction of transport related emissions. Policy 8.1.1 and 8.1.2 are expected to improve and enhance the local air quality, particularly in the AQMAs. Policy 8.1.1 aims to encourage low emission and sustainable modes of transport (such as low emission taxis, cycle delivery and ‘click and collect’ facilities away from town centres) through developing licensing conditions, pricing mechanisms and incentivised schemes reducing the impacts within AQMAs. The policy is also investigating the potential for a Clean Air Zone in Cambridge city centre, one of the seven traffic related AQMAs within the Combined Authority Area. Policy 8.1.2 aims to protect and improve the local air quality through monitoring and planning policy improvements. Monitoring of the current air quality at key locations, developing and implementing more effective Air Quality Action Plans are key aims of this policy. Policy 8.1.3 supports sustainable transport modes which may help reduce air pollution from transport. Improvements to air quality resulting from these policies will have positive effects on the health of local residents. Policy 8.1.2 is also expected to improve the health of the population by developing new air quality/planning policies in the area’s Air Quality Action Plans such as Health Impact Assessments at the pre-application stage for major developments. The policy also aims to provide public information campaigns about the health impacts of air pollution and monitor air quality at key locations to develop and implement effective Air Quality Action Plans. Policy 8.1.3 aims to improve public health through information campaigns and supporting sustainable transport modes. Policy 8.1.1 would have a positive effect on congestion and the economy by creating ‘click and collect’ hubs at Park & Rides sites which would reduce the requirement for private use cars to enter town centres and investigating ‘last mile’ deliveries using electric car/taxi and/or bikes. Policy 8.1.3 will help ensure a healthy workforce, contributing to the local economy.

6.2.9 Objective 9: Deliver a transport network that protects and enhances our natural, historic and built environments

Table 19: Policy Assessment Summary – Objective 9 Policies

LTP policy	SEA Objectives														
	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 9.1: Protecting the Natural Environment															
Policy 9.1.1 Protection and enhancement of the natural environment	++	+	++	++	+++	+++	+	+	+++	+++	+++	++	++	+	+
Policy 9.1.2 Improving sustainable access to the natural environment	++	+	+++	++	+++	++	0	+	+	0	0	++	++	+	+
Policy 9.1.3 Delivering green infrastructure	++	++	+++	++	+++	++	0	+	+	0	++	++	++	+	+
Policy Theme 9.2: Enhancing our Built Environments and Protecting our Historic Environments															
Policy 9.2.1 Work with our local highway and planning authority partners to enhance and protect our built and historic environment	+	+	+	+	++	0	+++	++	0	+	+	+	+	++	++

Summary

Policy Theme 9.1 aims to protect and enhance, and improve access to, the natural environment by sustainable modes. The policies will have positive effects for protection and enhancement of the natural environment including biodiversity and geodiversity, landscape, soils and the water environment. Policy 9.1.1 in particular will help ensure that transport infrastructure does not cause negative environmental effects and that opportunities for enhancement are maximised. Health and accessibility will also be improved through access to the natural environment by sustainable transport modes. However, increased footfall may affect the tranquillity of the countryside or damage ecological sites, so this will need to be carefully managed. The policies are also likely to have benefits for air quality and GHG reduction through promotion of sustainable non-motorised forms of transport, especially for short journeys.

Policy Theme 9.2 aims to conserve and enhance the built and historic environment. The policy is likely to have a major positive effect on the historic environment and its setting, designing and developing the built environment in a way that is sympathetic to the local history. The policy also considers the specific challenges relating to the built environment in market towns and recognises and supports innovation and future mobility patterns, which are key for encouraging tourist activity within historic areas such as market towns. The policy is likely to develop a consistent approach to local policy with regard to design which reflects the current and future needs to support the health, social and cultural wellbeing of the community, through improving strategic pedestrian routes and reducing private car usage in the built environment will improve air quality and noise quality benefiting the local residents. The policy recognises the need to consider how the existing built environment needs to be adapted for, and new development needs to

consider, the impacts of climate change. It aims to use the existing infrastructure, but to also future-proof it for future generations. Enhancements will have to remain sympathetic to the local historic character, however the policy supports and recognises innovation and future mobility patterns.

6.2.10 Objective 10: Reduce emissions to ‘net zero’ by 2050 to minimise the impact of transport and travel on climate change

Table 20: Policy Assessment Summary – Objective 10 Policies

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 10.1: Reducing the Carbon Emissions from Travel															
Policy 10.1.1 Utilising new technologies as they become available to minimise the environmental impacts of transport	+	0	0	+	+	+	0	0	0	0	0	++	++	0	0
Policy 10.1.2 Managing and reducing transport emissions	++	0	0	+	+	+	+	+	+	+	0	+++	+++	0	0
Policy 10.1.3 Encouraging and enabling sustainable alternatives to the private car including reducing the need to travel	++	+	++	+	+++	+	0	0	0	0	0	++	++	0	0

Summary

Policy Theme 10.1 aims to reduce carbon emission from travel through utilising new technologies and encouraging and enabling sustainable alternatives to the private car. All the policies encourage a move away from petrol/diesel transport to cleaner more sustainable alternatives which will have positive effects on reducing emissions associated with transport, health, reduced congestion and the economy. Policy 10.1.2 is likely to have major positive effects on air quality and GHG reduction as it is directly about reducing transport emissions from a range of sectors and modes. Policy 10.1.3 specifically encourages sustainable alternatives to the private car including reducing the need to travel which will have benefits for reduced congestion and accessibility, and air quality. Policy 10.1.2 encourages the use of Construction Environmental Management Plans (CEMPs) on major transport projects. Measures included in the CEMP are likely to reduce effects on the environment during construction works, therefore, providing short-term protection.

6.2.11 Modal policies

Table 21: Policy Assessment Summary – Modal Policies

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy Theme 11: Walking															
Policy 11.1 Support an increased number of walking trips by establishing safe, interconnected pedestrian connections between key destinations across our cities and towns	+++	++	++	+	+++	+	0	0	0	0	0	+	+	0	0
Policy 11.2: Ensure that new developments provide a high-quality walking environment	+++	++	++	+	+++	+	0	0	0	0	0	+	+	0	0
Policy Theme 12: Cycling															
Policy 12.1 Enhance and expand cycling infrastructure across Cambridgeshire and Peterborough, including connecting links to surrounding towns, villages and rural areas	+++	+++	++	+	+++	+	0	+	0	0	0	+++	+++	0	+
Policy 12.2: Provide secure, conveniently located cycle parking that meets demand	++	+	+	0	++	+	0	+	0	0	0	++	++	0	+
Policy 12.3: Ensure that new developments provide a high-quality cycling environment as well as linkages into the existing cycle network and to key destinations	+++	+++	++	+	+++	+	0	+	0	0	0	+++	+++	0	+
Policy 12.4: Promote cycling as a healthy, convenient and environmentally friendly mode of transport to residents, businesses and visitors, including the uptake of new cycle technologies such as affordable e-bikes	+++	++	++	++	+++	+	0	+	0	0	0	+++	+++	0	+
Policy 12.5: Embed cyclists needs in the design stage of new transport infrastructure	+++	+++	++	+	+++	+	0	+	0	0	0	+++	+++	0	+
Policy Theme 13: Delivering a Seamless Public Transport System															
Policy 13.1 Explore new methods of ticketing to improve the ease and affordability of travel, including across transport modes and operators	++	+	++	+	+	0	0	0	0	0	0	+	+	0	0
Policy 13.2 Improve journey information to maximise the ease of travelling by public transport	+	+	++	+	+	0	0	0	0	0	0	+	+	0	0

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy 13.3 Support the delivery of new and improved integrated, multi-modal transport hubs	++	+	+++	++	+++	0	0	0	0	0	0	++	++	0	++
Policy 13.4 Support additional Park & Ride provision, in conjunction with Cambridgeshire Autonomous Metro (CAM), where fully integrated into local transport networks	++	+	+++	++	+++	? / -	? / -	? / - -	? / - -	? / -	? / -	++	++	? / -	0
Policy Theme 14: Rural Transport Services															
Policy 14.1: Explore different mechanisms to help deliver a more integrated, coherent rural transport network, in collaboration with operators, local councils, communities and stakeholders	++	+	+++	++	++	+	0	0	0	0	0	+	+	0	+
Policy 14.2: Work with operators to develop a frequent, attractive rural bus network, forming the backbone of the rural public transport network	++	+	+++	++	++	+	0	0	0	0	0	+	+	0	+
Policy 14.3: Support local community transport, fully integrated into the rural public transport network, for communities not served by the bus or rail network	++	+	+++	++	++	+	0	0	0	0	0	+	+	0	+
Policy Theme 15: Improving Public Transport in our Towns and Cities															
Policy 15.1 Support the continued development of urban bus networks by working in partnership with bus operators and local authorities to improve service quality, reliability and frequency	++	+	+++	+++	+++	+	0	0	0	0	0	++	++	0	+
Policy 15.2 Deliver transformational mass transit within our cities to support growth and deliver a step-change in accessibility	++	+	+++	+++	+++	? / - -	? / - -	? / -	? / -	? / -	? / -	++	++	? / -	0
Policy 15.3 Support measures to better manage demand for road space following the provision of high-quality public transport infrastructure	++	+	+	++	+++	+	0	0	0	0	0	++	++	0	0
Policy Theme 16: Travelling by Coach															
Policy 16.1 Providing sufficient space and appropriate infrastructure for coach services	+	+	++	++	+	+	0	0	0	0	0	+ / 0	+ / 0	0	+
Policy 16.2 Integrating coach services with wider public transport and highway networks	+	0	++	++	+	+	0	0	0	0	0	+ / 0	+ / 0	0	+
Policy Theme 17: Travelling by Train															

SEA Objectives

LTP policy	Health	Safety	Accessibility	Economy	Sustainable Transport	Biodiversity / Geodiversity	Historic Environment	Landscape	Soils	Water	Flood risk	Air Quality	GHG emissions	Climate resilience	Reuse of Infrastructure
Policy 17.1 Support measures to deliver a more reliable, integrated, passenger-friendly rail network	+	+	+++	+++	++	+	0	0	0	0	0	++	++	0	+
Policy 17.2 Facilitate improvements to our rail stations to improve the experience of travelling by train	+	+	+++	+	++	+	0	0	0	0	0	++	++	0	+
Policy 17.3 Explore options to expand the rail network to link to new settlements, corridors and growth areas	++	+	+++	+++	+++	? / --	? / -	? / --	? / --	? / -	? / --	+++	+++	0	+
Policy 17.4 Support frequency and journey time enhancements on our rural and intercity rail links to improve connectivity and capacity	++	+	+++	+++	++	? / --	0	0	0	0	0	+++	+++	0	+
Policy Theme 18: The Local Road Network															
Policy 18.1 Identifying a Key Route Network	0	+	0	+	0	0	0	0	0	0	0	0	0	0	+
Policy 18.2 Promoting more efficient use of the existing road network	+	+	+	++	+++	+	0	0	0	0	0	++	++	0	++
Policy 18.3 Aligning approaches to management and maintenance	0	+	0	+	0	0	0	0	0	0	0	0	0	0	++
Policy Theme 19: Parking															
Policy 19.1 The design of parking	+	+	+	+	+	0	0	0	0	0	0	+	+	0	0
Policy 19.2 Managing parking demand	+	+	+	0	+	0	0	0	0	0	0	+	+	0	0
Policy 19.3 Parking technology and implications of disruptive technology	0	0	+	+	0	0	0	0	0	0	0	0	0	0	0
Policy Theme 20: Making Long Distance Journeys by Car															
Policy 20.1 Improve our highway network to alleviate congestion, improve reliability and enhance our region's accessibility	- / +	- / ++	++	++	- / ++	? / -	? / -	? / -	? / --	? / -	? / -	- / ++	- / ++	? / -	- / +
Policy 20.2 Support improvements on regional and national corridors to improve accessibility to the rest of the UK and abroad	- / +	- / +	++	++	- / ++	? / -	? / -	? / -	? / -	? / -	? / -	- / +	- / +	? / -	- / +

Summary

Policy Theme 11 supports increased numbers of walking trips. Both of the Policies 11.1 and 11.2 aim to promote walking for short distance trips, improve facilities and connectivity for pedestrians, and work with public health teams to encourage walking as a means to prevent and treat related conditions. This is likely to have major positive effects on health. Improved pedestrian links are expected to establish a safer environment for walkers, hence reducing potential accidents. There is likely to be improved connectivity for walking trips therefore increasing accessibility. Improved pedestrian links which are integrated with infrastructure and developments and improved public realm will likely promote walking as alternative mode of transport.

This could potentially reduce the need to travel by car, particularly for short journey, therefore reducing road traffic and congestion and resulting in benefits for air quality and GHG reduction.

Policy Theme 12 promotes enhancement and expansion of cycle facilities to encourage increased cycling. All five policies promote cycling as a viable mode of transport through improvements in infrastructure and facilities. This will likely lead to an increase in cycling activities which has the potential to improve health, increase accessibility and reduce road traffic congestion. Policies 12.1, 12.3, 12.4 and 12.5 encourage safety through design and cycle segregation. This is likely to help reduce conflicts between cyclists and other road users, increasing safety. Policy 12.2 aims to ensure cycling parking is secure which will help to reduce crime related to bicycle theft. Policy 12.5 promotes cycle training and improved legibility of cycle networks which is likely to contribute to improved road safety. All the policies will likely result in positive effects for air quality and reducing GHG emissions by reducing the need to travel by car. An improvement in cycling infrastructure and the reduction in the number of cars could potentially contribute to enhancing the townscape. All five policies will maximise the use of cycling infrastructure and are likely to have indirect positive effects on biodiversity.

Policy Theme 13 aims to deliver a seamless public transport system through improved ticketing and affordability of travel, improved information for users, and delivery of integrated multi-modal transport hubs. This is likely to have positive effects on health, accessibility, the economy, air quality and reduced congestion as it may facilitate modal shift away from the private car. Policy 13.1 and 13.2 will improve accessibility through easier and more affordable public transport travel. Measures such as integrated ticketing and a clearer pricing structure are likely to improve access for vulnerable groups. Policies 13.3 and 13.4 are likely to have major benefits for accessibility. Measures such as improving major transport hubs, creating small rural hubs close to existing transport corridors, and new park and ride facilities along key highway corridors will help increase accessibility via a range of transport options. Policy 13.4 promotes park and ride sites, depending on the location of these sites there could be negative effects on ecology, heritage and landscape. The site selection process will need to take this into account.

Policy Theme 14 aims to increase the public transport connectivity of rural areas as well as promoting the use of demand-responsive transport (DRT) and pooling services where public transport is not feasible. This is likely to increase accessibility to key services and open up employment opportunities, particularly for those without access to a private car. There is also likely to be economic opportunities for those delivering DRT services or for organisations such as Uber. There is also likely to be a reduction in private car usage due to increase public transport connectivity which is likely to have positive effects on air quality and GHG emissions.

Policy Theme 15 aims to improve public transport in urban areas. All three policies are likely to have major positive effects on reducing road traffic congestion. Policy 15.1 and 15.2 aim to promote public transport as an efficient and reliable alternative to car travel and Policy 15.3 aims to introduce measures to reduce congestion beyond improving the public transport network. There is likely to be increased accessibility as a result of all the policies, however Policy 15.1 and 15.2 will create links to a wider area through both improved and new infrastructure. Economic benefits are also likely, particularly for Policy 15.2 which will connect the city centre of Cambridge to key business destinations around the city. Positive effects on air quality and GHG emissions are also expected for all three policies. Policy 15.2 includes the potential for new infrastructure, which could have potential negative effects for biodiversity and geodiversity, the historic environment and its setting, landscape, and soils. However, it will make use of existing busways as well as new routes, the route selection process is likely to take environmental aspects into account and project level mitigation may be required.

Tunnelling under Cambridge as part of the Cambridgeshire Autonomous Metro (CAM) will generate a large amount of excavated material and a strategy should be developed for its reuse.

Policy Theme 16 support travel by coach. The policies have the potential to increase the accessibility of the region as well as key attractions and destinations within the region. This will likely attract more visitors and will have subsequent benefits for the local economy. Policy 16.1 also aims to improve coach services for vulnerable users which could improve the physical and mental well-being of these individuals. There is also potential for positive effects on road congestion, air quality, GHG emissions, biodiversity and the water environment emissions, if the policies result in modal shift from the private car to coaches. However, if this shift is from other public transport modes or from increased numbers of visitors (resulting in more coaches) then effects are likely to be neutral.

Policy Theme 17 promotes rail improvements to increase travel by train as well as for freight movements. The policies include measures which are likely to promote and improve the experience of using rail services. There is likely to be increased accessibility through improved train frequency, reduced journey times and the introduction of new stations and new railway lines linking growth areas and key centres. This is likely to maximise the use of existing infrastructure. Policy 17.4 also has the potential to benefit the local and wider economy by supporting the movements of goods to, from and through the area. The policies are also likely to reduce the use of private car which will have direct positive effects on air quality and GHG emissions, and indirect positive effects on health and biodiversity. Policy 17.4 is also likely to have additional positive effects on air quality and GHG emissions as it aims to support the electrification of the rail network, increased the number of freight and passenger trains and also supports the achievement of the net zero target by 2050. Policy 17.3 is likely to have major positive effects for improved accessibility, facilitating economic growth, and encouraging modal shift away from the private car due to the proposed new stations and rail routes. However, this Policy also has potential for negative effects on ecology, the historic environment and its setting, flood risk, landscape and agricultural land loss depending on the location and project-level mitigation measures for new stations and rail routes.

Policy Theme 18 aims to promote efficient use and maintenance of the local road network. Policy 18.1 and 18.3 are likely to have positive effects on road health and safety as they will encourage a co-ordinated and prioritised approach to highway maintenance and transport asset management, maintaining roads in a good condition for users. Policy 18.2 is also likely to have positive effects as a shift of freight movement from road to rail will reduce the number of HGVs on the roads which may improve health and safety. It also aims to reduce the need to travel and encourage public transport instead of the private car which may have benefits for health and safety. Policy 18.2 promotes the use of Intelligent Mobility solutions to actively manage traffic and make more efficient use of existing networks and services, as well as promoting new infrastructure and improving the quality of existing infrastructure which will result in improved accessibility to key services. Measures to discourage vehicles such as parking controls will need to ensure they do not adversely affect vulnerable or mobility impaired people who rely on the car or that appropriate alternative transport modes are in place to meet their needs. Policy 18.2 encourages the use of rail freight instead of road freight as well as promoting the use of more sustainable modes of transport through new infrastructure and improving the quality of existing infrastructure, and introducing vehicle controls such as parking restrictions/vehicle charging, which could have a positive effect on air quality and GHG reduction.

Policy Theme 19 aims to ensure appropriate parking standards and facilities. Policy 19.1 and 19.2 aim to increase access through parking for Blue Badge holders in safe, accessible locations close to key services and amenities. The policy also promotes safe, secure parking design for all road

users, use of ultra-low emissions vehicles, and use of alternative modes of transport to the private car. These policies will have minor positive effects on health. Policy 19.1 and 19.2 aim to manage and reduce demand for parking. This may reduce the numbers of vehicles in city/town centres making them safer for pedestrians and cyclists. Policy 19.1 and 19.3 may indirectly benefit the economy as reduced town and city centre congestion will enable public transport and cycling to be more reliable and efficient. Use of smart technology will also have benefits. Policy 19.2 aims to manage parking by encouraging alternative modes of transport. However, reduction in parking or higher pricing may put some people off, whilst encouraging others. Policy 19.1 promotes use of electric and other ultra-low emission vehicles through lower tariffs on parking and priority spaces with charging infrastructure. This will help increase uptake of non-petrol/diesel vehicles which will have benefits for air quality. Policy 19.2 seeks to reduce demand for parking through provision of alternatives. This will help modal shift away from the private car and therefore, a reduction in associated transport emissions.

Policy Theme 20 aims to reduce congestion on the highway network. This will have benefits for health, air quality, and GHG reduction. However, an unintended consequence may be that it encourages increased vehicle use. The policies have the potential to increase the accessibility within the region by improving the capacity of the road network and supporting economic growth. Policy 20.1 also aims to promote a busway which could be used as an alternative to car travel. The policies promote new highway infrastructure and therefore, there is potential for negative effects on biodiversity, landscape, historic environment and its setting, and soils depending on their location, design and project level mitigation measures.

6.3 Assessment of LTP Projects

The projects proposed in the LTP have been assessed as part of the SEA process and the assessment tables are provided in Appendix H. Projects included in policies have also been assessed as part of that policy (see section 6.2). Projects that are currently under construction have not been assessed as these are considered part of the baseline. Several of the proposed projects in the LTP have already undergone SEA as part of the previous LTP development. These projects have only been re-assessed where the project has changed since the previous assessment.

The projects are at different stages of development, some are at the concept stage or do not have specific locations and others are more defined. The majority of projects are likely to have construction related effects including impacts on noise and vibration, air quality through dust from construction activities, visual intrusion, increased traffic from construction vehicle movements, use of materials, energy and water, and generation of waste materials. Depending on location, nature of the project and project level mitigation measures there is also potential for habitat loss and species disturbance, loss of agricultural land, water quality issues, flood risk issues, and effects on the setting of the historic environment and landscape character. The HRA concluded that there are no likely significant effects on the European designated sites. The LTP contains policies to try and reduce the negative effects associated with transport infrastructure and protect and enhance the natural and built environment including requiring a Construction Environmental Management Plan (CEMP) and considering environmental protection and enhancement within project design. Each project taken forward will be subject to environmental assessment screening through the planning process.

There is also opportunity to provide positive effects through design and co-ordination with partners and other organisations, including habitat creation and enhancement, incorporation of green infrastructure, increased access to the natural and historic environment (although increased pressure on these assets would need to be managed), increased accessibility and connectivity, and facilitating economic growth

6.4 Cumulative Effects

The cumulative effects of the LTP have been assessed through consideration of:

- The effects of the LTP policies and projects as a whole on the SEA objectives
- The potential links and effects of the LTP with other tiers of plans and projects

6.4.1 Cumulative Assessment of the LTP

The LTP as a whole including all the proposed policies and projects was assessed against the SEA objectives to determine the cumulative positive or negative effects of the Cambridgeshire and Peterborough LTP. The results are presented in Table 22.

The LTP strategy is a blended approach as described in Section 5. It focuses on a range of significant capital investments in highway, public transport and walking and cycling infrastructure, designed to support a significant increase in travel demand (expected to be generated by significant new development) but tailored to the local geographic and travel context. Overall the LTP is likely to have significant positive social effects from increased accessibility (both affordability and connectivity), increased choice and reliability of sustainable transport modes, economic growth, and health benefits. The LTP promotes sustainable transport modes including low and zero emission vehicles which will help reduce transport-related emissions providing benefits for air quality, GHG reduction and health.

The LTP promotes new road and rail transport infrastructure which has the potential for positive or negative cumulative effects depending on the location of the projects and mitigation measures incorporated into the design. Negative cumulative effects could include habitat loss and fragmentation, death, injury or disturbance to species, visual impacts, damage to heritage assets and archaeology, effect

on setting of heritage assets, landtake including loss of agricultural land, and water pollution. There is also opportunity to provide positive effects including habitat creation and enhancement, incorporation of green infrastructure, increased access to the natural and historic environment (although increased pressure on these assets would need to be managed), increased accessibility and connectivity, and facilitating economic growth. There are also policies in the LTP that aim to reduce negative effects associated with transport infrastructure and protect and enhance the natural and built environment.

Table 22: Cumulative Effects of the LTP

SEA Objectives	LTP	Summary
Health	+++	Health benefits through promotion of active travel, improved air quality, and increased accessibility resulting in benefits for mental wellbeing.
Safety	++	Increased transport health and safety through crime prevention and security measures on public transport, segregation of road users, and training for cyclists.
Accessibility	+++	Increased accessibility through improved and well-connected sustainable transport modes, access of travel information, integrated ticketing and affordability of the public transport network.
Economy	+++	Contribution to economy growth through a more reliable and efficient transport network, facilitating visitor travel and business travel, and freight movement.
Sustainable Transport	+++	Promotion of sustainable transport modes including public transport, walking and cycling through increased provision, new routes, and improved services and facilities.
Biodiversity / Geodiversity	?	The LTP facilitates modal shift to sustainable transport modes which will have benefits for biodiversity. However, projects proposed within the LTP have the potential to negatively affect biodiversity through habitat and disturbance.
Historic Environment	?	The LTP facilitates modal shift to sustainable transport modes which is likely to have benefits for the historic environment and its setting. However, projects proposed within the LTP have the potential to negatively affect the historic environment through new infrastructure affecting the setting of heritage assets and potential disturbance of archaeology.
Landscape	?	The LTP facilitates modal shift to sustainable transport modes which is likely to have benefits for landscape. However, projects proposed within the LTP have the potential to negatively affect the character of the landscape through new infrastructure effects on visual amenity, tranquillity, and openness of the countryside.
Soils	?	The LTP facilitates modal shift to sustainable transport modes which is likely to have benefits for soils. However, projects proposed within the LTP have the potential to negatively affect soils through agricultural land loss.
Water	?	The LTP facilitates modal shift to sustainable transport modes which is likely to have benefits for the water environment. However, projects proposed within the LTP have the potential to negatively affect the water environment through water quality issues.
Flood Risk	+	The LTP aims to ensure transport projects do not increase flood risk and that appropriate design features such as SuDS are included.
Air Quality	+++	The LTP facilitates modal shift to sustainable transport modes which will reduce emissions associated with transport and benefit air quality.
GHG emissions	+++	The LTP facilitates modal shift to sustainable low or zero carbon transport modes which will reduce GHG emissions associated with transport.
Climate Resilience	+	The LTP contains policies that require transport infrastructure projects to consider climate resilience within the design process.
Reuse of infrastructure	++	The LTP aims to maximise capacity and use of existing infrastructure and well as promoting new infrastructure.

6.4.2 Links with other plans and projects

Links with other plans

The LTP is a strategic document that sets the framework and principles for future transport planning in the Cambridgeshire and Peterborough area for the next 30 years. As such it has links with many other

plans (see Appendix B). In particular, it supports plans on emissions reduction, green infrastructure, healthy lifestyles, accessibility, and environmental improvement.

The Local Plan for each local authority forms the main policy document for delivering development within each area. The LTP has strong links with the Local Plans. In particular, the LTP policies on providing improved connections to new housing development and economic centres will link with new development sites put forward in the Local Plans. Each of Local Authorities within the LTP area have published a Local Plan that has been subject to SEA/SA (see Table 23).

The LTP is likely to support the delivery of the Local Plans and other plans such as climate change strategies and community strategies. The positive environmental effects associated with the enhancement of local sustainable transport within the LTP have the potential to provide significant positive environmental effects in combination with wider plans and policies on climate change and air quality. Policies on housing have the potential to result in positive environmental effects in combination with the LTP through unlocking development sites and supporting new residential developments which aim to ensure that they are integrated as part of sustainable transport networks, this will result in positive environmental effects for populations, communities and human health (through protecting and promoting everyone's physical and mental wellbeing and safety).

Table 23: Local Authority Local Plans

Local Authority	Local Plan	Local Plan SA
Cambridge City Council	Adopted Cambridge City Council Local Plan 2018 ²¹	Cambridge Local Plan Submission Sustainability Appraisal report and Habitats Regulations Screening Assessment (July 2013) and Addendum (2015, revised March 2016) and Sustainability Appraisal of Main Modifications (December 2017) ²²
East Cambridgeshire District Council	Adopted - East Cambridgeshire Local Plan April 2015 ²³ (Note the emerging Local Plan has been withdrawn)	Sustainability Appraisal of the Local Plan 2015 ²⁴
Fenland District Council	Fenland Local Plan Adopted May 2014 ²⁵	Sustainability Appraisal of the Fenland Local Plan (May 2014) ²⁶
Huntingdonshire District Council	Emerging Local Plan – Huntingdonshire Local Plan 2036: Proposed Submission (March 2018) ²⁷	Huntingdonshire's Local Plan to 2036: Final Sustainability Appraisal Report (December 2017) ²⁸
Peterborough City Council	Emerging Local Development Plans – Peterborough Local Plan (Proposed Submission) January 2018 ²⁹ Adopted Local Plan – Peterborough Core Strategy Development Plan Document Adopted 23rd February 2011 ³⁰	Peterborough Local Plan (Submission Version) Sustainability Appraisal 9 January 2018) ³¹

²¹ <https://www.cambridge.gov.uk/local-plan-2018>

²² <https://www.cambridge.gov.uk/local-plan-2018>

²³ <https://www.eastcambs.gov.uk/local-development-framework/east-cambridgeshire-local-plan-2015>

²⁴ <https://www.eastcambs.gov.uk/sites/default/files/SA%20report%20of%20the%20April%202015%20Adopted%20LP%20-%20FINAL.pdf>

²⁵ https://www.fenland.gov.uk/media/12064/Fenland-Local-Plan---Adopted-2014/pdf/Fenland_Local_Plan-Adopted_2014.pdf

²⁶ <http://www.fenland.gov.uk/CHttpHandler.ashx?id=10011&p=0>

²⁷ <http://www.huntingdonshire.gov.uk/planning/new-local-plan-to-2036/local-plan-document-library/>

²⁸ <http://huntingdonshire.gov.uk/media/2685/draft-final-sustainability-appraisal-report.pdf>

²⁹ https://drive.google.com/file/d/1ZwklR2mdq3nO-DrOWi5B0U05f_njxYEB/view

³⁰ <https://www.peterborough.gov.uk/council/planning-and-development/planning-policies/local-development-plan/>

³¹ <https://drive.google.com/file/d/1EiX1Cq8ckAhRqh8qVYKnSxqwIMPuxJQ/view>

Local Authority	Local Plan	Local Plan SA
South Cambridgeshire District Council	Adopted South Cambridgeshire Local Plan 2018 ³²	South Cambridgeshire Local Plan Submission Sustainability Appraisal Report and Habitats Regulations Screening Assessment (March 2014) ³³ Sustainability Appraisal Addendum Report incorporating Habitats Regulations Assessment Screening Assessment (2015, revised March 2016) ³⁴ Sustainability Appraisal of Main Modifications (December 2017) ³⁵

Links with other projects

Various projects will be taken forward in order to implement the LTP. Each proposed project will be assessed by the local planning authority in terms of its potential for environmental impacts and effects. A planning application search of local authority planning portals was made using criteria of presence of EIA screening request dated between 16/01/2014 and 16/01/2024 (five years prior to search date and five years post search date). Residential housing sites with under 100 units have been screened out as being insignificant. The results of the planning portal search are presented in Appendix I.

There is the potential for construction related cumulative effects on a number of social and environmental receptors (e.g. short-term declines in water quality or noise and visual disturbance). However, these potential effects will be identified within each project and minimised through the implementation of a Construction Environmental Management Plan. Projects will be spread across the region and are likely to have different phasing. Therefore, construction related cumulative effects are considered to be insignificant.

6.5 Transboundary Effects

The LTP has the potential for transboundary effects with neighbouring local authorities, especially through larger proposed rail and road schemes which may enhance accessibility in and out of the region to other areas of the country. Local transport plans for neighbouring authorities have been consulted to determine any potential trans-regional effects (see Table 24). The LTPs have also been subject to SEA to identify, mitigation and enhance environmental outcomes.

Table 24: Neighbouring Authority LTPs

Neighbouring Local Authority	LTP Priorities
Norfolk	Norfolk's 3rd Local Transport Plan, Connecting Norfolk, sets out the strategy and policy framework for transport up to 2026 ³⁶ . The policy themes of the plan are <ul style="list-style-type: none"> • Managing and maintaining the transport network • Sustainable growth • Strategic connections • Transport emissions • Road Safety • Accessibility

³² <https://www.scambs.gov.uk/planning/local-plan-and-neighbourhood-planning/the-adopted-development-plan/south-cambridgeshire-local-plan-2018/>

³³ <https://www.scambs.gov.uk/planning/local-plan-and-neighbourhood-planning/the-adopted-development-plan/south-cambridgeshire-local-plan-2018/>

³⁴ <https://www.scambs.gov.uk/planning/local-plan-and-neighbourhood-planning/the-adopted-development-plan/south-cambridgeshire-local-plan-2018/>

³⁵ <https://www.scambs.gov.uk/planning/local-plan-and-neighbourhood-planning/the-adopted-development-plan/stages-in-the-preparation-of-the-local-plan-2018/main-modifications-to-the-local-plans-january-february-2018/>

³⁶ <https://www.norfolk.gov.uk/-/media/norfolk/downloads/what-we-do-and-how-we-work/policy-performance-and-partnerships/policies-and-strategies/roads-and-transport/norfolk-transport-plan-for-2026.pdf?la=en&hash=054A0C88BC2D430A37E41FD6ACB1EFA657FC8739>

Neighbouring Local Authority	LTP Priorities
Suffolk	<p>Suffolk's 3rd Local Transport Plan³⁷ sets out the county council's long-term transport strategy to 2031. The policy themes of the plan are:</p> <ul style="list-style-type: none"> ● Maintaining (and in the future improving) our transport networks ● Tackling congestion ● Improving access to jobs and markets ● Encouraging a shift to more sustainable travel patterns
Hertfordshire	<p>The plan³⁸ covers the period up to 2031. The Plan has the following objectives:</p> <ul style="list-style-type: none"> ● Improve access to international gateways and regional centres outside Hertfordshire ● Enhance connectivity between urban centres in Hertfordshire ● Improve accessibility between employers and their labour markets ● Enhance journey reliability and network resilience across Hertfordshire ● Enhance the quality and vitality of town centres ● Preserve the character and quality of the Hertfordshire environment ● Reduce carbon emissions ● Make journeys and their impact safer and healthier ● Improve access and enable participation in everyday life through transport
Central Bedfordshire	<p>The Local Transport Plan³⁹ sets out the Council's aims and objectives to 2026. The Plan has the following objectives:</p> <ul style="list-style-type: none"> ● Increase the ease of access to employment by sustainable modes ● Reduce the impact of commuting on local communities ● Increase the number of children travelling to school by sustainable modes of transport ● Improve access to healthcare provision ● Ensure access to food stores and other local services particularly in local and district centres ● Enable access to a range of leisure, cultural and tourism facilities for residents and visitors alike by a range of modes of transport ● Enable the efficient and reliable transportation of freight ● Encourage the movement of freight by sustainable modes ● Minimise the negative impacts of freight trips on local communities ● Reduce the risk of people being killed or seriously injured
Bedford	<p>The LTP⁴⁰ runs from 2011 to 2021. The plan has the following objectives:</p> <ul style="list-style-type: none"> ● To provide a reliable and efficient transport system, in order to support a strong local economy and facilitate sustainable growth ● To deliver improvements that encourage a reduction in transport emissions and greenhouse gases, in order to tackle climate change and develop a low carbon community capable of adapting to the impacts of climate change ● To promote greater equality of opportunity by providing opportunities for all residents to access key services and facilities ● To contribute to better safety, security and health by reducing death, injury or illness from transport and promoting travel modes that are beneficial to health ● To encourage and support a sustainable transport system that contributes to a healthy natural and urban environment ● To gain a better understanding of travel behaviour in and out of the Borough, in order to make informed decisions on how people can be encouraged to make "smarter" sustainable travel choices
Northampton	<p>The LTP⁴¹ runs to 2026. The plan has six strategic aims:</p> <ul style="list-style-type: none"> ● Fit for the Future – creating a transport system that supports and encourages growth and plans for the future impacts of growth, whilst successfully providing benefits for the County ● Fit for the Community – through the transport system help to maintain and create safe, successful, strong, cohesive and sustainable communities where people are actively involved in shaping the places where they live

³⁷ <https://www.suffolk.gov.uk/assets/Roads-and-transport/public-transport-and-transport-planning/2011-07-06-Suffolk-Local-Plan-Part-1-Ir.pdf>

³⁸ <https://www.hertfordshire.gov.uk/media-library/documents/about-the-council/consultations/ltp4-local-transport-plan-4-complete.pdf>

³⁹ http://centralbedfordshire.gov.uk/Images/transport-strategy_tcm3-7901.pdf

⁴⁰ http://bbcdevwebfiles.blob.core.windows.net/webfiles/Files/LTP3_Strategy_09_Feb_2011.pdf

⁴¹ <https://www3.northamptonshire.gov.uk/councilservices/northamptonshire-highways/transport-plans-and-policies/Documents/Northamptonshire%20Transportation%20Plan%20-%20Fit%20for%20Purpose.pdf>

Neighbouring Local Authority	LTP Priorities
	<ul style="list-style-type: none"> • Fit to Choose – ensuring that the people of Northamptonshire have the information and the options available to them to be able to choose the best form of transport for each journey that they make • Fit for Economic Growth – creating a transport system that supports economic growth, regeneration and a thriving local economy and successfully provides for population and business growth • Fit for the Environment – to deliver a transport system that minimises and wherever possible reduces the effect of travel on the built, natural and historic environment • Fit for Best Value - being clear about our priorities for investment and focusing on value for money by prioritising what we spend money on and how it can be beneficial for the county as a whole and search for alternative sources of funding
Rutland	<p>Rutland's 4th LTP Moving Rutland Forward⁴² covers the period to 2036 and is currently in draft. The plan has been developed with the following vision:</p> <ul style="list-style-type: none"> • To facilitate delivery of sustainable population and economic growth • To meet the needs of our most vulnerable residents • To support a high level of health and wellbeing (including combating rural isolation)
Lincolnshire	<p>The 4th Lincolnshire LTP⁴³ runs to 2023. The plan has the following objectives:</p> <ul style="list-style-type: none"> • To assist the sustainable economic growth of Lincolnshire, and the wider region, through improvements to the transport network • To improve access to employment and key services by widening travel choices, especially for those without access to a car • To make travel for all modes safer and, in particular, reduce the number and severity of road casualties • To maintain the transport system to standards which allow safe and efficient movement of people and goods • To protect and enhance the built and natural environment of the county by reducing the adverse impacts of traffic, including HGVs • To improve the quality of public spaces for residents, workers and visitors by creating a safe, attractive and accessible environment • To improve the quality of life and health of residents and visitors by encouraging active travel and tackling air quality and noise problems • To minimise carbon emissions from transport across the county

⁴² https://www.rutland.gov.uk/_resources/assets/attachment/full/0/72383.pdf

⁴³ <https://www.lincolnshire.gov.uk/Download/102928>

D Assessment of Projects (from 2020 LTP)

Extracts from Cambridgeshire and Peterborough Combined Authority, SEA - Environmental Report, Appendix H - LTP Project Assessments (Mott MacDonald, May 2019) Appendices on previous pages will have page numbers; Appendices on this and subsequent pages will not.

H. LTP Projects Assessment Tables

The proposed LTP projects have been assessed as part of the SEA process using the assessment methodology described in Chapter 6.1 of the Environmental Report. The assessments tables are presented below.

Scoring Key

Assessment Scale	Significance of Effect
+++	Major positive effect
++	Moderate positive effect
+	Minor positive effect
0	Neutral or no effect
-	Minor negative effect
--	Moderate negative effect
---	Major negative effect
?	Requires further classification at this stage

Table 6: East Coast Main Line Rail Capacity Improvements

Intervention name	East Coast Main Line Rail Capacity Improvements
Further Information	Network Rail led strategic rail plan.
Local Authority	Peterborough and Cambridge
Current status	
Location	Throughout Cambridgeshire and Peterborough
Baseline	<ul style="list-style-type: none"> Designated Sites: one NNR: Holme Fen; four LNRs: 'Little Paxton Pit'; 'Therfield Heath'; 'Melwood'; and 'Nine Wells'; Nene Washes (SSSI, Ramsar, SAC and SPA); Portholme (SSSI and SAC); SSSIs: Woodwalton Marsh; Holme Fen; L-moor; Shepreth SSSI; Holland Hall (Melbourn) Railway Cutting; and Great Stukeley Railway Cutting 24 listed buildings within 100m including one Grade I, nine Grade II and three Grade II* Six scheduled monuments within 100m, the current railway crosses over Lolham Bridges and Mile Cross Ditches Nine conservation areas, with five in close proximity: Central Cambridge; Great Shelford; Offord Cluny; Huntingdon; and Peakirk Scheme passes over multiple main rivers and drains. Flood Zones 2 and 3 in multiple areas Agricultural land Grades 1, 2, 3, 4 non-agricultural and urban land Close to Cambridge Greenbelt AQMA Cambridge, AQMA Huntingdon

SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	+	This project has the potential to increase the attractiveness of train travel which could potential lead to a reduce in the number of private cars on the road. The health of local communities could therefore be positively affected by improvements in air quality.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	This project will likely have a minor positive impact on the health and safety of the transport network. By making the network more reliable, there is the potential that more people would travel via train instead of cars thereby reducing the number of private use cars on the roads.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	This project will improve accessibility around the Combined Authority which will allow people to move more efficiently to key services, recreational areas and employment locations. A moderate positive impact has been identified.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	This project will support local economic growth and competitiveness through delivering reliable and efficient transport networks across the Combined Authority. Overall, a moderate positive impact is anticipated.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+++	This project aims to improve the reliability and promote the use of the rail network on the East Coast Main Line. By making mode of transport more efficient and reliable, it would be expected that less people would travel by car subsequently reducing road traffic and congestion. A major positive effect is anticipated.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / - - -	The project has the potential to impact multiple designated sites: one NNR (Holme Fen); four LNRs ('Little Paxton Pit'; 'Therfield Heath'; 'Melwood'; and 'Nine Wells'); 'Nene Washes' with potential effects downstream (SSSI, Ramsar, SAC and SPA); 'Portholme' SSSI and SAC immediately east of the current railway; immediately east of the current railway are 'Woodwalton Marsh' (SSSI) and 'Holme Fen'; and the scheme passes through 'L-moor, Shepreth' (SSSI); 'Holland Hall (Melbourn) Railway Cutting' (SSSI); and 'Great Stukeley Railway Cutting' (SSSI). The railway also comes close to the Cambridge Greenbelt. It is anticipated that some of the designated sites will experience major negative effects. In addition, permanent land-take where required, will also impact negatively on habitats and species.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / - - -	The project has the potential to impacts multiple listed buildings ranging from Grade I to Grade II* at various locations along the route. There are six scheduled monuments within 100m; the current railway crosses over 'Lolham Bridges' and 'Mile Cross Ditches'; south of the current railway is 'Roman Site North of Brown Spinney'; north of the current railway is 'Settlement North West of Little Shelford'; and west of current railway is 'Site revealed by aerial photography west of White Hill Farm'. There are approximately nine conservation areas, the following five are within close proximity of the scheme and could be potentially affected; 'Central Cambridge'; 'Great Shelford'; 'Offord Cluny'; 'Huntingdon'; and 'Peakirk'. It is anticipated that the project would have a major negative effect on the historic environment.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	? / - -	The project has the potential to have a negative effect on the diversity and distinctiveness of the landscape and townscape character depending on where the changes may be required along the railway. If these updates are required within an area close to a designated site or a schedule monument or conservation area it could have a moderate negative effect. Therefore, a moderate negative effect has been identified.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	? / - -	The scheme (depending on what upgrades are required where) could impact upon Grades 1, 2, 3, 4, non-agricultural and urban land type. A minor to moderate negative impact is expected because land-take would be permanent and could impact upon high quality agricultural land.
10. Protect and enhance the quality of the water environment	? / -	This project is unlikely to enhance the quality of the water environment; however, any additional railway tracks would not increase flood risk in the same way roads would due to railway ballast being a permeable surface. There may an increased risk in contaminated run-off therefore a minor negative effect has been identified.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / - -	The project passes through multiple main rivers and drains and is within Flood Zones 2 and 3 at multiple points within the Combined Authority Area. It is anticipated that some permanent land-take is required which will increase the flood risk for certain areas along the railway route. However, unlike roads, railway ballast is permeable which would help to reduce flood risk. Therefore, an overall minor to moderate negative effect has been identified.
12. Protect and improve local air quality, particularly in the AQMAs	+ / ++	This project could have a positive impact on improving local air quality by reducing the number of cars within town centres and cars that experience congestion. Reducing road congestion and numbers of cars on the road could have a minor to moderate positive effect on improving local air quality. The East Coast Main Line route goes through 2 AQMAs; one in Cambridge (Ref 311) and one in Huntingdon (Ref 400).

SEA Objectives	Project Assessment	Summary of Effects
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+ / ++	This project could have a positive impact on minimising GHG emissions by reducing the number of cars on the road through making the rail network more effective and efficient. This could have a minor to moderate positive impact on reducing GHG emissions.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project would not minimise or maximise the risk of flooding. The project is partially located in Flood Zone 2 and 3 and crosses multiple main rivers, therefore risks to flooding are still possible. Therefore, a minor negative impact is expected.
15. Maximising the use and lifespan of existing transport infrastructure	++	This project will reuse at much of the pre-existing railway infrastructure and only update where required. Therefore, a moderate positive effect is anticipated.

Summary:

This project is a Network Rail led strategic rail plan. It is located across a large portion of the Combined Authority and has the potential to impact upon or be affected by multiple environmental constraints. The major negative effects that are anticipated as a result of the project are in relation to biodiversity and the historic environment, with multiple heritage assets such as scheduled monuments, conservation areas and listed buildings within close proximity of the current railway line, therefore any upgrades could impact negatively on these assets. There are also multiple designated sites which the current railway is within close proximity to or crosses through, therefore any updates could impact negatively on habitats and species. There are some key positives from the scheme such as reducing the need to travel by car, maximising the lifespan of existing transport infrastructure, and improving efficiency and reliability of the rail network to further improve accessibility to key services, recreational areas and employment.

Table 8: A1 Wittering Junction Improvement

Intervention name	A1 Wittering Junction Improvement
Further Information	Grade separated junction to Wittering to replace at grade crossing.
Local Authority	Peterborough
Current status	
Location	Wittering
Baseline	• Grade 3 agricultural land

SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	0	This project does not aim to improve the health of the population; however, the project suggests junction improvements capacity improvements most likely to relieve congestion. The project is not situated within an AQMA. The project suggests easing congestion which would result in a minor positive impact for localised air quality, however the effects on health are not likely to be significant. A neutral effect has therefore been identified.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	++	The project aims to improve the A1 junction at Wittering. By improving and replacing the junction it will have a positive impact on cars joining the A1. This junction replacement from a grade crossing to a grade separated junction will have the positive impact on reducing accidents. Therefore, a moderate positive impact has been identified.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+ / ++	Accessibility to the A1 is likely to be improved and cars will be able to join the A1 more safely. Therefore, an overall minor to moderate positive effect has been identified.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	?	The project could potentially improve the reliability and efficiency of the transport network which would have a resultant positive impact on supporting and contributing to local economic growth. However, further classification is required for this project.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	++	This project will improve junction access to the A1, which will aid both private use cars as well as public transport joining the A1. The project has the potential to reduce road traffic congestion by improving the accessibility. The project also does not promote sustainable modes of transport; however, it will enable public transport to be more efficient and reliable. Overall a moderate positive effect has been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	-	The project is unlikely to impact designated sites, green belt or ancient woodlands. There could be impacts to Grade 3 agricultural land experienced from junction updates and where permanent land-take is required, this could have a negative impact on habitats. Therefore, overall minor negative impacts are anticipated.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	- / 0	The project is located in an area of no historic features. However, there could be minor negative impacts on buried archaeology from the junction updates, therefore a neutral to minor negative effect is anticipated.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	0	The project not situated within a conservation area, therefore replacing the junction is unlikely to impact the current diversity and distinctiveness of the landscape and townscape character, therefore a minor negative effect is anticipated.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	-	The project is likely to require land take consisting of Grade 3 agricultural land to replace the junction. A minor negative impact has therefore been identified for the protection and conservation for the quality of soils.
10. Protect and enhance the quality of the water environment	? / -	The enhancements to the road network at this location are likely to take place on agricultural land, therefore this will have a negative impact by increasing the impermeable surface area which would increase the potential for contaminated run-off. However, the updates required to the road network will require updated drainage which, although minor could have a potentially positive impact on the quality of the water environment through implementation of sustainable drainage (for example, SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is located in an area unaffected by flood risk. However, the project would increase the impermeable surface area through the junction replacement. Appropriate drainage will need to be considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	+ / ++	The junction replacement at Wittering into the A1 is not located in an AQMA. The upgrade would also have a positive impact on reducing localised congestion. Therefore, a minor to moderate positive impact has been identified.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	0 / +	This project is unlikely to minimise GHG emissions dramatically. The scheme would ease congestion, therefore impacts to GHG emissions would be relatively low. Therefore, a neutral to minor positive impact is anticipated.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project is not located in an area identified as being at risk from flooding. However, increasing the impermeable surface area through junction improvements could increase the risk of flooding by increasing run-off rates. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	0 / +	The project aims to replace the current infrastructure from a grade crossing to a grade separated junction. This would be updating the current infrastructure, therefore an overall neutral to minor positive effect is anticipated.

Summary:

The project is to improve the junction at Wittering where it joins the A1, upgrading from a grade crossing to a grade separated junction. There is likely to be improvements to the local air quality and also the health and safety of the road network where traffic is joining or leaving the A1. This improvement to the infrastructure will also aid public transport. There are likely to be negative impacts on the conservation of quality of soils, minimising the loss of agricultural land and maintaining the quality. There are potential negative impacts on buried heritage assets and also in relation to flood risk, although effects are uncertain.

Table 11: Lynch Wood Phase II

Intervention name	Lynch Wood Phase II
Further Information	Capacity improvements in the vicinity of Lynchwood Business Park.
Local Authority	Peterborough
Current status	
Location	Alwalton, A605 Oundle Road
Baseline	<ul style="list-style-type: none"> Two listed buildings Agricultural Land Grade 3

SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	0	This project does not aim to improve the health of the population; however, the project suggests capacity improvements to resolve severe delays that are currently experienced on the approach to the Business Park. Although there are no AQMAs at the project location, by improving capacity would result in minor positive effects to the local air quality. However, the benefits for health are not likely to be significant therefore a neutral effect has been identified.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+ / 0	The project aims to provide capacity improvements in the vicinity of the Business Park which currently employs approximately 4,000 staff. By increasing the capacity of the transport network at this location will aid health and safety by reducing the congestion. However, a result of additional infrastructure could mean be a potential increase in the amount of private road users which could cause an increase in road related accidents, therefore overall a neutral to minor positive effect is anticipated.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	This project will improve accessibility to key employment services at the project location by providing capacity improvements in the vicinity to the business park. The project does not improve accessibility to key services or recreational areas, therefore an overall moderate positive effect has been identified.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	The project will improve accessibility to the local business park and consequently reduce localised congestion, which will result in a reliable and efficient transport network for approximately 4,000 staff who utilise the business park. This infrastructure improvement will in turn support and contribute to local economic growth.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	0 / -	This project will provide improved infrastructure in the vicinity of the business park to reduce congestion caused by the approximately 4,000 staff who use the business park. However, improving the capacity could result in a potential increase in the number of private car users and potentially users of public transport. The project does not promote the use of sustainable modes of transport, therefore an overall neutral to minor negative effect is anticipated.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	-	The project is unlikely to impact designated sites, green belt or ancient woodlands. There could be minor impacts to Grade 3 agricultural land experienced from widening the road. Permanent land-take, where required, would have a negative impact on habitats. Therefore, overall minor negative impacts are anticipated.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	-	The project is within close proximity to two Grade II listed buildings located on the roadside. These buildings could experience minor negative effects from vibration caused by increased traffic or from the construction of additional lanes. There could also be a minor negative impact on buried archaeology from widening the roads. The project is within the Alwalton Conservation Area which could have a negative impact on the townscape.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	-	The project is partially situated within the Alwalton Conservation Area, therefore improving the road network will reduce congestion, however, the project could see an increase in the number of vehicles on the road. It is anticipated that the project will have a negative impact on the current diversity and distinctiveness of the landscape and townscape character of the Alwalton Conservation Area, therefore a minor negative effect is anticipated.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	-	The project could potentially require permanent land-take consisting of Grade 3 agricultural land to enhance the road network to cope with improvements to capacity on the approach to the Lynchwood Business Park. A minor negative impact has therefore been identified for the protection and conservation for the quality of soils.
10. Protect and enhance the quality of the water environment	? / -	The enhancements to the road network at this location are likely to take place on agricultural land, therefore this will have a negative impact by increasing the impermeable surface area. This has the potential increase the risk of contaminated run off. However, the updates required to the road network will require updated drainage which, although minor could have a potentially positive impact on the quality of the water environment through implementation of sustainable drainage (for example, SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is situated within Flood Zone 1. Therefore, it is at a low risk of flooding. However, as the project will lead to an increase in the impermeable area, it may contribute to the risk of flooding. Appropriate drainage will need to be considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	++	Currently, the local area experiences heavy road congestion localised around the business park, therefore the project aims to resolve the severe delays on the approach to the business park. Although there is no AQMA in the local area, by reducing the congestion will have a moderate positive impact on the air quality for the local residents.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	Currently, the local area experiences heavy road congestion, therefore the project aims to resolve the severe delays on the approach to the business park. Reducing the amount of congestion and queuing into the business park will reduce the amount of time cars are idle in queues. However, by improving access to the business park and reducing queues in this area, could result in an increase in A605 road users. Overall, it is anticipated that the project would have a minor positive effect on minimising GHG emissions for the local area and Combined Authority.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project will increase the area of impermeable surface by updating current infrastructure to cope with capacity into the business park. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	+	The project aims to update the current infrastructure to improve capacity and reduce congestion currently experienced. This would be utilising the current infrastructure; however, the current infrastructure may require updating to accommodate the new lanes, therefore an overall minor positive effect is anticipated.

Summary:

The project is to provide capacity improvements in the vicinity of Lynchwood Business Park, which currently employs approximately 4,000 staff. The project suggests capacity improvements to resolve severe delays that are currently experienced on the approach to the business park. There is likely to be improvements to the local air quality and also accessibility to key employment areas for the community and provide a reliable and efficient transport network. There are likely to be negative impacts on the conservation of quality of soils and minimising the loss of agricultural land. There are potential negative impacts on the protection of landscape and townscape due to the Alwalton Conservation Area within close proximity to the scheme. Other potential negative effects have been identified for the historic environment with reference to buried archaeology and the two Grade II listed buildings within close proximity to the main road and also the protection of biodiversity. Given that the project will likely increase the impermeable surface area, there is potential for it to contribute to the risk of flooding therefore appropriate drainage will need to be considered.

Table 13: A15 Paston Parkway Junction 21 Improvements

Intervention name	A15 Paston Parkway Junction 21 Improvements
Further Information	Improve capacity of roundabout.
Local Authority	Peterborough
Current status	
Location	Junction 21 on the A15 north-east of Gunthorpe
Baseline	<ul style="list-style-type: none"> • Section of the Car Dyke between Whitepost Road and Fen Bridge Scheduled Monument • Water environment – car dyke • Agricultural Land Grade 3 • Flood zone 1

SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	0	This project does not aim to improve the health of the population; however, the project suggests capacity improvements to relieve congestion at this junction. The project not situated within an AQMA. The project suggests easing congestion which would improving air quality, however the benefits to health is likely to be insignificant therefore a neutral impact has been identified.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	The project aims to improve capacity at Junction 21 on the A15 to ease congestion and any delays currently experienced along this road. By increasing the capacity of the transport network at this location will aid health and safety by reducing the congestion. Therefore, overall a minor positive effect is anticipated.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	This project will improve accessibility to key employment services and housing by providing better infrastructure to cope with the current volumes of traffic experienced along the A15, specifically at Junction 21. Therefore, an overall moderate positive effect has been identified.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	The project will improve accessibility to the local employment areas and housing and will consequently reduce localised congestion along the A15 at Junction 21, which will result in a reliable and efficient transport network. This infrastructure improvement will in turn support and contribute to local economic growth, therefore an overall moderate positive effect has been identified.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	++	This project will improve capacity at Junction 21 on the A15 to ease congestion currently experienced in this area. This will help improve bus journey times and facilitate potential bus priority measures, allowing a more efficient transport network for public transport and make public transport more reliable. Overall a moderate positive effect has been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	0 / -	The project is unlikely to impact designated sites, green belt or ancient woodlands. There could be impacts to Grade 3 agricultural land experienced from widening the current road network. Therefore, overall neutral to minor negative impacts are anticipated.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	0 / -	The project is within close proximity to a Scheduled Monument. Additionally, there could be minor negative impacts on buried archaeology from widening the road network, therefore a minor negative effect is anticipated.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	-	The project not situated within a conservation area, however, the project is within close proximity to a Scheduled Monument would could affect the setting. Additionally, there could be minor negative impacts on buried archaeology from widening the road network, therefore a minor negative effect is anticipated.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	-	The project is could require land take consisting of Grade 3 agricultural land. A minor negative impact has therefore been identified for the protection and conservation for the quality of soils.
10. Protect and enhance the quality of the water environment	? / -	The enhancements to the road network at this location are likely to take place on agricultural land, therefore this will have a negative impact by increasing the impermeable surface area. This has the potential increase the risk of contaminated run off. However, the updates required to the road network will require updated drainage which, although minor could have a potentially positive impact on the quality of the water environment through implementation of sustainable drainage (for example, SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is located Flood Zone 1 therefore it is at a low risk of flooding. However, given that the project will increase the impermeable surface area, it has the potential to contribute to the risk of flooding. Appropriate drainage will need to be considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	+ / ++	The improvements at Junction 21 aims to reduce current levels of congestion and idle traffic. This combined with no AQMA for the area would result in a moderate positive impact, however the increase in capacity of Junction 21 could also see an increase in private road users, therefore an overall, a minor to moderate positive impact has been identified.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	Road congestion is currently experienced along the A15, the project aims to resolve the severe delays occurring at Junction 21. Reducing the amount of congestion around this junction will reduce the amount of time cars are idle in queues. However, by improving junction capacity and reducing congestion in this area, this could result in an increase in road users. However overall, it is anticipated that the project would have a minor positive effect on minimising GHG emissions for the local area and Combined Authority.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project will increase the area of impermeable surface by improving infrastructure with regards to capacity around Junction 21. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	+	The project aims to update the current infrastructure to ease the congestion currently experienced. This would be utilising the current infrastructure; however, the current infrastructure may require updating to accommodate the new lanes, therefore an overall minor positive effect is anticipated.

Summary:

The project aims to improve capacity of the roundabout at Junction 21 of the A15 to resolve severe delays that are currently experienced on the A15. There is likely to be improvements to the local air quality and also accessibility to key employment areas for the community and provide a reliable and efficient transport network. There are likely to be negative impacts on the conservation of quality of soils, minimising the loss of agricultural land and maintaining the quality of soils. Other potential negative effects have been identified for the historic environment with reference to buried archaeology associated with land-take and potential impacts to biodiversity. Junction 21 is located within Flood Zone 1, however as it will increase the impermeable surface areas there is potential for the project to contribute to the risk of flooding. There may also be an increase in contaminated run-off. Appropriate drainage will therefore need to be considered as part of the project.

Table 14: A16 Norwood Dualling

Intervention name	A16 Norwood Dualling
Further Information	Provide roundabout access off the A16 into the proposed Norwood development and dual the existing section of the A16 between there and its roundabout with the A47 which would also be improved. Enable the development of Norwood comprising 2,000 houses, which would otherwise be difficult to bring forward due to developer cash flow issues.
Local Authority	Peterborough
Current status	Pre-feasibility
Location	Norwood development site located off of the current A16 junction with the A47
Baseline	<ul style="list-style-type: none"> • Dogsthorpe Star Pit SSSI and LNR • Section of the Car Dyke between Whitepost Road and Fen Bridge Scheduled Monument • Dogsthorpe Star Pit water body • Agricultural Land Grade 3 • Flood Zone 1

SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	- / +	This project does not aim to improve the health of the population; however, the project suggests capacity improvements for the projected increase in cars due to the Norwood development site. The project not situated within an AQMA. The project suggests easing potential congestion which would result in a minor positive impact with regards to health by improving air quality. However, the project has the potential to attract more vehicles which could reduce air quality and therefore negatively impact health.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	- / +	The project aims to dual the A16 from Norwood development site to the A47 with roundabout access off the A16 and improving the A47/A16 junction to ease potential congestion and any delays. By increasing the capacity of the transport network at this location will aid health and safety by reducing the congestion. However, a result of increased capacity infrastructure there could be a potential increase in the amount of road users which could cause an increase in road related accidents, therefore a mixed positive and negative effect has been identified.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	This project will improve accessibility to key employment services and housing by providing better infrastructure to cope with the current volumes of traffic experienced along the A16. The Norwood development will only increase volumes of traffic, therefore improving the infrastructure will help to cope with anticipated congestion along these main roads and junctions. Therefore, an overall moderate positive effect has been identified.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	The project will improve accessibility to the local employment areas and housing and will consequently reduce predicted localised congestion along the A16 between Norwood development site and the A47, which will result in a reliable and efficient transport network. This infrastructure improvement will in turn support and contribute to local economic growth.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	++	This project will dual the A16 between Norwood development site and the A47 junction to ease congestion currently experienced, and congestion that is predicted to worsen with developments like Norwood being introduced in this area. The dualling aspect of the project could see an increase in the number of private car users using the A16, but it could also allow a more efficient transport network for public transport and make public transport more reliable. Overall a moderate positive effect has been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	-- / -	The project is unlikely to impact green belt or ancient woodlands. However, Dogsthorpe Pstar Pit SSSI and LNR are within 2km of the scheme location. There could be impacts to Grade 3 agricultural land experienced from widening the road and junction updates. In addition, where permanent land-take is required there could be negative impacts on habitat anticipated. Therefore, overall minor to moderate negative impacts are anticipated.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	-- / -	The project is within close proximity to a Scheduled Monument. There is the potential for negative effects to the scheduled monument depending on the exact location of the roundabout. Additionally, the dualling aspect of the project could have negative impacts on buried archaeology. Therefore, a minor to moderate negative effects are anticipated.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	-	There is likely to be minor negative effects to the landscape as a result of this project as it will require land-take from agricultural land to dual the A16..
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	--	The project is likely to require land take consisting of Grade 3 agricultural land to dual the A16. A moderate negative impact has therefore been identified for the protection and conservation for the quality of soils as the scheme has potential to impact upon 'best and most versatile' agricultural land.
10. Protect and enhance the quality of the water environment	? / -	The enhancements to the road network at this location are likely to take place on agricultural land, therefore this will have a negative impact by increasing the impermeable surface area. This could result in an increase in contaminated run-off. However, the updates required to the road network will require updated drainage which, although minor could have a potentially positive impact on the quality of the water environment through implementation of sustainable drainage (for example, SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is situated in an area affected by Flood Zone 1 and Dogsthorpe Star Pit water body. By increasing the impermeable surface area, the project could result in increased flood risk. Appropriate drainage will need to be considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	+ / ++	The dualling of the A16 aims to reduce current levels and predicted levels of congestion and idle traffic. This combined with no AQMA for the area would result in a moderate positive impact, however the increase in capacity of the A16 could also see an increase in private road users, therefore an overall, a minor to moderate positive impact has been identified.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	Road congestion is currently experienced along the A16 with the projection of congestion increasing with Norwood development site. The project aims to resolve the severe delays occurring. Reducing the amount of congestion along the A16 will reduce the amount of time cars are idle in queues. However, by dualling the A16 and reducing congestion in this area, this could result in an increase in road users. However overall, it is anticipated that the project would have a minor positive effect on minimising GHG emissions for the local area and Combined Authority.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project will increase the area of impermeable surface by adding more lanes around the A16, increasing the potential flood risk. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.

SEA Objectives	Project Assessment	Summary of Effects
15. Maximising the use and lifespan of existing transport infrastructure	+	The project aims to update the current infrastructure along the A16 and roundabout with the A47 with new infrastructure in the form of a roundabout along the A16 to ease the congestion currently experienced also projected congestion. This would be utilising the current infrastructure; however, the current infrastructure may require updating to accommodate the new lanes, therefore an overall minor positive effect is anticipated.

Summary:

The project aims to dual the A16 from Norwood development site to the A47 with a new roundabout off the A16 into the proposed Norwood development and update the roundabout where the A16 and A47 meet. The project suggests capacity improvements to resolve severe delays that are currently experienced and are predicted to worsen on the A16. There is likely to be improvements to the local air quality and also accessibility to key employment areas for the community and provide a reliable and efficient transport network. There are likely to be negative impacts on the conservation of quality of soils as the project requires permanent land-take of Grade 3 agricultural land. Negative impacts are also anticipated for the protection of landscape and townscape. Other potential negative effects have been identified for the historic environment with reference to buried archaeology and setting impact on the scheduled monument, as well as potential negative impacts on designated sites close to the scheme site. Additionally, the scheme is located Flood Zone 1, however by increasing the impermeable surface area has the potential to contribute to the risk of flooding.

Table 15: A1139 Fletton Parkway Junction 3-3a Widening

Intervention name	A1139 Fletton Parkway Junction 3-3a Widening
Further Information	Widen parkway to D3-lane
Local Authority	Peterborough
Current status	
Location	Hampton
Baseline	<ul style="list-style-type: none"> Orton Pit SAC and SSSI Romano-British settlement SE of Orton Longueville Scheduled Monument Fletton Lake and Stanground Lode waterbodies Flood Zone 3

SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	0	The project has the potential to reduce congestion and therefore improve air quality. However, it is unlikely that the widening of the parkway between junctions 3 and 3a will have an effect on the health of the population. Therefore, a neutral effect is anticipated.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	Improvements to the capacity of the parkway between these two junctions will have positive effects on the health and safety as it will ease congestion and could result in fewer accidents. Therefore, a minor positive effect is anticipated.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+	Widening of the parkway between these junctions will have positive effects on reducing congestion which will help to improve accessibility to key services, employment and recreational areas. Therefore, a minor positive effect is anticipated.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+	By widening the road, there is likely to be positive effects on reducing congestion which will help to improve reliability and efficiency of the transport network. This is likely to have a positive impact on supporting and contributing to the local economic growth of the area. Therefore, a minor positive effect is anticipated.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+	Improvements to the capacity of the parkway by widening the road will have positive effects on reducing congestion. This will make the road network more efficient as well as helping public transport to be more reliable and efficient. A minor positive effect has therefore been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	- / -	Orton Pit SAC/SSSI designated site is located adjacent to the project site. There is potential for minor to moderate negative effects on species, and the potential for habitat loss. There is no green belt land-take associated with this project.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	-	There is a scheduled monument within close proximity of the junction. There is potential for the setting to be affected by the project therefore a minor negative effect has been identified.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	-	Widening the parkway between these two junctions will reduce congestion which may have positive effects on the setting of the landscape. The addition of new infrastructure will alter the landscape, however, given that there is an existing busy road effects are considered minor.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	0	The junction widening at Junction 3-3a and its upgrade are located in an area classified as urban land use or non-agricultural. Therefore, neutral effects are anticipated.
10. Protect and enhance the quality of the water environment	? / -	There are a number of waterbodies located adjacent to the scheme. The enhancements to the road network between are likely to result in an increase in the impermeable surface area which may lead to an increase in contaminated run-off. However, the updates required to the road network will require updated drainage which, although minor could have a potentially positive impact on the quality of the water environment through implementation of sustainable drainage (for example, SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is located in Flood Zone 3 and therefore is at a higher risk of flooding. Given the project would increase the impermeable surface area to allow for greater capacity at the junction, there is potential that the project could further contribute to the risk of flooding. Appropriate drainage will need to be considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	+	The project is not located in an area with an AQMA. This coupled with the improvements in capacity by widening Junction 3 – 3a will reduce congestion and cars queuing, which will result in minor improvements to the air quality. Therefore, a minor positive effect has been identified.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	The project looks to widen the parkway between these two junctions which will help to ease congestion. Reducing the congestion will help to reduce GHG emissions slightly but could also see an increase in road users, therefore a minor positive effect is anticipated.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project is located in an area identified as being at risk from flooding. Therefore, increasing the impermeable surface area through adding additional lanes to widen the parkway could increase the risk of flooding. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	+	The project aims to update the current infrastructure to improve capacity on the parkway to ease the congestion. This would be utilising the current infrastructure; however, it will also be updating the current infrastructure and maximising its use, therefore an overall minor positive effect is anticipated.

Summary:

The project is to widen the Fletton Parkway to D3-lane to improve the capacity of the interchange. There is likely to be minor positive effects to improvements to the local air quality, GHG emissions, health and safety by reducing congestion. Improvements are also anticipated with regards to improving accessibility and providing an efficient and reliable transport network. Minor negatives are expected with regard to landscape and townscape character, risk of the infrastructure from and its contribution to flooding, the historic environment with reference to the scheduled monument and biodiversity with a designated site close to the project site.

Table 16: A1139 Fletton Parkway Junction 3 Improvements

Intervention name	A1139 Fletton Parkway Junction 3 Improvements
Further Information	Improve the capacity of the interchange.
Local Authority	Peterborough
Current status	
Location	Hampton
Baseline	<ul style="list-style-type: none"> Orton Pit SAC and SSSI Romano-British Settlement SE of Orton Longueville Scheduled Monument Fletton Lake and Stanground Lode waterbodies Flood Zone 3

SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	0	The project has the potential to reduce congestion and therefore improve air quality. However, it is unlikely that the effect on the health of the population will be insignificant therefore a neutral effect is anticipated.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	Improvements to the capacity of the interchange will have positive effects on the health and safety of this junction as it will ease congestion and could result in fewer accidents. Therefore, a minor positive effect is anticipated.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+	Improvements to the capacity of the interchange will have positive effects on reducing congestion which will help to improve accessibility to key services, employment and recreational areas. Therefore, a minor positive effect is anticipated.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+	Improvements to the capacity of the interchange will have positive effects on reducing congestion which will help to improve reliability and efficiency of the transport network which will have a positive impact on supporting and contributing to the local economic growth of the area. Therefore, a minor positive effect is anticipated.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+	Improvements to the capacity of the interchange will have positive effects on reducing congestion therefore making the road network more efficient. This also has the potential to make public transport more reliable and efficient therefore a minor positive effect has been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	- / -	Orton Pit SAC/SSSI is located adjacent to the project site. There is potential for minor to moderate negative effects on species, and the potential for habitat loss. There is no green belt land-take associated with this project.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	-	There is a scheduled monument within close proximity of the junction. There may be effects on the setting of the scheduled monument as a result of this project therefore a minor negative effect has been identified.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	-	Increasing the capacity of the junction will reduce congestion which may have positive effects on the setting of the landscape. The addition of new infrastructure will alter the landscape, however, given that there is an existing busy road effects are considered minor.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	0	The Junction 3 and its upgrade are located in an area classified as urban land use or non-agricultural. Therefore, neutral effects are anticipated.
10. Protect and enhance the quality of the water environment	? / -	There are a number of waterbodies located adjacent to the scheme. The enhancements to the road network between are likely to result in an increase in the impermeable surface area which may lead to an increase in contaminated run-off. However, the updates required to the road network will require updated drainage which, although minor could have a potentially positive impact on the quality of the water environment through implementation of sustainable drainage (for example, SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is located in Flood Zone 3 and therefore is at a higher risk of flooding. Given the project would increase the impermeable surface area to allow for greater capacity at the junction, there is potential that the project could further contribute to the risk of flooding. Appropriate drainage will need to be considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	+	The project is not located in an area with an AQMA. The improvements in the capacity of the interchange at Junction 3 will likely reduce congestion and cars queuing, which will result in minor improvements to the air quality. Therefore, a minor positive effect has been identified.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	The project looks to improve capacity at this junction which will help to ease congestion. Reducing the congestion will help to reduce GHG emissions slightly but could also see an increase in road users, therefore a minor positive effect is anticipated.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project is located in an area identified as being at risk from flooding and will result in an increase in the impermeable surface. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	+	The project aims to update the current infrastructure to improve capacity of the interchange to ease the congestion. This would be utilising the current infrastructure; however, it will also be updating the current infrastructure, therefore an overall minor positive effect is anticipated.

Summary:

The project is to upgrade Junction 3 of the Fletton Parkway to improve the capacity of the interchange. There is likely to be minor positive effects to improvements to the local air quality, GHG emissions, health and safety by reducing congestion. Improvements are also anticipated with regards to improving accessibility and providing an efficient and reliable transport network. Minor negatives are expected with regard to landscape and townscape character, the historic environment with reference to the scheduled monument and biodiversity with a designated site close to the project site. Given that the project is located within Flood Zone 3 and will lead to an increase in the impermeable surface area, there is potential for the project to be at risk from flooding as well as contribute to increasing flood risk. Appropriate drainage will therefore need to be considered alongside the project.

Table 23: Eastern Industries Access Phase 1 – Parnwell Way

Intervention name	Eastern Industries Access Phase 1 – Parnwell Way
Further Information	Capacity improvements to existing infrastructure, possible dualling of link road or alternative access arrangements. Provides access to large employment area at Red Brick Farm within the Eastern Industries, enabling the creation of 6,000-8,000 jobs,
Local Authority	Peterborough
Current status	Pre-feasibility
Location	Peterborough
Baseline	<ul style="list-style-type: none"> • Within SSSI impact risk zone • Adjacent to Flood Zones 2 and 3 • AQMA No. 1

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	- / +	There is potential for the project to reduce congestion by increasing the capacity of the road network. This may have positive effects on air quality and therefore lead to improvements in health. However, given that the project may lead to dualling of the link road, it may attract additional vehicles. A mixed positive and negative effect has therefore been identified.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	- / +	Minor positive effect on the safety of the transport network is expected from improving access to Eastern Industries where the road is used by both private cars and heavy goods vehicles. However, if the project attracts additional vehicles to the area, there may be an increase in the risk of accidents occurring. A mixed positive and negative effect has therefore been identified.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	Moderate positive effect on accessibility is expected from the increased capacity access to Eastern Industries which is a large employment area.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+++	Major positive effect is expected from the proposed capacity improvement which may improve the reliability and efficiency of the transport network, supporting the local economic growth and competitiveness, given that Eastern Industries is a large employment area. It may also help to support the creation of 6,000-8,000 new employment opportunities.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	++	A moderate positive effect is expected as the project is expected improve the capacity of Parnell way or with alternative access arrangement, thereby improving congestion. However, this project does not promote the use of sustainable modes of transport.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	-	A minor negative effect is expected as improved road capacity may cause habitat fragmentation and/or deterioration in habitat environment and the connection between habitats and species from increased traffic volume, especially when the project is situated within a SSSI impact risk zone.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / -	While there is no existing designated historic assets within close proximity of the proposed project, there is a risk/potential for the discovery of historic resources from excavation during construction.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	-	Potential minor negative effect on the landscape and townscape character is expected from the widening of Parnell Way or redirection of traffic to other roads.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	-	Minor negative effect on the quality of soil is expected as increased traffic and potential road widening may cause soil compaction and/or erosion. However, the project is not expected to cause any loss of agricultural / greenfield land, and unlikely to have opportunities in remediating contaminated land.
10. Protect and enhance the quality of the water environment	? / -	There is potential for the project to affect the water environment given it is likely to increase the impermeable surface area which could lead to an increase in contaminated run-off. However, the updates required to the road network will require updated drainage which, although minor could have a potentially positive impact on the quality of the water environment through implementation of sustainable drainage (for example, SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	Considering the Parnell Way is located next to Flood Zone 2 and 3 there is potential for the project to be at a higher risk of flooding. In addition, it is likely to increase the impermeable surface area which has the potential to contribute to the risk of flooding. Appropriate drainage will need to be considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	-	Parnell Way is located within AQMA No.1, and the increasing road capacity to accommodate more traffic will lead to increased air pollution from vehicular emission, especially if the number heavy good vehicles are expected to increase. However, the capacity improvements may reduce emissions associated with idling cars in traffic jams. Therefore, a moderate negative effect is expected.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	--	The increase of road capacity is expected to allow for more road traffic, leading to an increase in GHG emissions and Peterborough's contribution to climate change. However, the capacity improvements may reduce emissions associated with idling cars in traffic jams. Therefore, a moderate negative effect is expected.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	Subject to the final capacity improvement arrangements, considering the project is located next to Flood Zone 2 and 3, there is a potential for minor negative effect on flood risk from the removal of vegetation/land clearance (albeit small extent) for road widening. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	++	Moderate positive effect is expected as capacity improvement is expected to further maximise the use and lifespan of existing road.

Summary:

Moderate to major positive effects are expected for existing road network and road users (associated with improved accessibility and safety) from proposed capacity improvement. However, major negative effects are expected on air quality and contribution to climate change from the improved capacity with increased traffic volume. There is also potential for the project to contribute to the risk of flooding given that it will increase the impermeable surface area. Appropriate drainage will need to be considered as part of the project.

Table 24: University and Fengate South Access

Intervention name	University and Fengate South Access
Further Information	Package of capacity improvements to existing infrastructure, possible road widening or junction improvements focusing on Southern Fengate.
Local Authority	Peterborough
Current status	
Location	Fengate in Peterborough
Baseline	<ul style="list-style-type: none"> • Nene Washes Ramsar Site, SSSI, SAC and SPA • Flood zones 2 and 3 • AQMA No. 1

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	0	Capacity improvements may result in improvements to congestion which could have positive effects on air quality. However, the benefits for human health is likely to be insignificant therefore a neutral effect has been identified.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	There may be minor positive effects on the health and safety of the transport network if existing constraints or hazards are also identified and addressed in the process of improving existing road network.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+	Minor positive effects on accessibility are expected with improved road network capacity.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+	Minor positive effects are expected as the improved road capacity will increase the efficiency of transport network, supporting and contributing to local economic growth and competitiveness
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+	Although the project is expected to reduce traffic congestion by improving existing infrastructure capacity, it does not reduce the need to travel by car or promote sustainable transport modes; therefore, a minor positive impact has been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	--	The project is in close proximity to the Nene Washes Ramsar site (SSSI, SAC, SPA), road works and increased traffic are expected to increase disturbance to habitat and species within and/or traveling to and from the designated site. Therefore, a moderate negative effect has been identified.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / -	There are no listed historic features around the proposed project area. However, subject to the details of improvement works to be proposed, there is still a potential for discovery during construction (excavation).
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	0	While details of the improvement works are to be confirmed, the overall townscape character around Fengate is not expected to be affected from road widening or junction improvement. Therefore, neutral impact has been identified.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	-	Minor negative effect on the quality of soil is expected as increased traffic and potential road widening and junction improvements may cause soil compaction and/or erosion. However, the project is not expected to cause any loss of agricultural / greenfield land, and unlikely to have opportunities in remediating contaminated land.
10. Protect and enhance the quality of the water environment	? / -	Given that the capacity improvements may result in the widening of the road, there is potential for the impermeable surface area to be increase. However, the updates required to the road network may require updated drainage which, although minor could have a potentially positive impact on the quality of the water environment through implementation of sustainable drainage (for example, SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	Parts of Fengate South is located within Flood Zone 2 and 3 therefore the transport infrastructure is likely to be at a higher risk of flooding. The project may increase the impermeable surface area and therefore contribute to the risk of flood. Appropriate drainage will need to be considered alongside the project.
12. Protect and improve local air quality, particularly in the AQMAs	- / +	University and Fengate South is located within AQMA No.1, potential negative effects on local air quality from road capacity improvement which will lead to increased road traffic and air pollution. However, the capacity improvements may reduce emissions associated with idling cars in traffic jams. Therefore, a moderate negative effect is expected.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	- / +	Moderate negative effect is expected as increased capacity is expected to result in increase in GHG emission from increased traffic volume, and also increase Peterborough's contribution to climate change. However, the capacity improvements may reduce emissions associated with idling cars in traffic jams.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	Subject to the final capacity improvement arrangements, considering parts of Fengate South is located within Flood Zone 2 and 3, there is a potential for negative effect on flood risk from the removal of vegetation/land clearance for road widening. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	+	Improving capacity is expected to maximise the use and lifespan of existing transport infrastructure, therefore a minor positive impact has been identified.

Summary:

Increasing existing road network capacity will have positive effects on the efficiency of transport networks thereby improving accessibility to key services, employment area, thus supporting local economic growth. There is potential that the improved capacity will reduce congestion and therefore improve air quality and reduce GHG emissions. However, there is potential for the capacity improvements to attract more vehicles which could result in negative effects. The health benefits from the improvements in air quality are not likely to be significant but the health and safety of the road network will likely improve. There is potential for negative effects on biodiversity, the historic environment, soils, the water environment, flooding and climate resilience.

Table 32: Smart Cities Peterborough

Intervention name	Smart Cities Peterborough
Further Information	Continuation of Smart Cities projects.
Local Authority	Peterborough
Current status	Pre-feasibility
Location	Peterborough
Baseline	Not Applicable

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	++	The transport projects under the Smart Cities Peterborough are likely to promote public and active modes of transport. Active modes of transport have the potential to directly improve health and public transport may result in air quality improvements and therefore health benefits through reduced reliance on private car.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	Through reducing the reliance on private cars, the projects as part of the Smart Cities remit have the potential to indirectly benefits the health and safety of the transport network as the likelihood of accidents may be reduced.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	The Smart Cities projects have the potential to improve access to key services in sustainable, active and innovative ways.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	By making Peterborough a more innovative city in terms of transport as well as within other spheres, the city is likely to be more attractive for business. This will help to boost economic growth. Access is likely to be improved and transport is likely to be more efficient therefore making businesses more competitive and efficient.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	++	The Smart Cities Peterborough projects are likely to prioritise and promote active and public transport over private cars. This will likely be done in an innovative way therefore encouraging people to use these modes over using private car. Congestion will therefore be reduced.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / -	There may be indirect positive effects for biodiversity due a decrease in the number of private cars through promoting public transport. However, there is potential for negative effects on biodiversity, although this is dependent on the type, exact location and design of projects proposed under this remit.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / -	The historic environment has the potential to be negatively affected by the infrastructure improvements which may be proposed as part of this project. However, there is potential for negative effects, although this is dependent on the type, exact location and design of projects proposed under this remit.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	? / -	The landscape and townscape has the potential to be negatively affected by the infrastructure improvements which may be proposed as part of this project. However, there is potential for negative effects, although this is dependent on the type, exact location and design of projects proposed under this remit.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	? / -	Soils, agricultural and greenfield land have the potential to be negatively affected by the infrastructure improvements which may be proposed as part of this project. However, there is potential for negative effects, although this is dependent on the type, exact location and design of projects proposed under this remit.
10. Protect and enhance the quality of the water environment	? / -	The water environment has the potential to be negatively affected by the infrastructure improvements which may be proposed as part of this project. However, there is potential for negative effects, although this is dependent on the type, exact location and design of projects proposed under this remit.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The infrastructure improvements as part of this project has the potential to be negatively affected by flood risk and also has the potential to contribute to the risk of flooding. However, there is potential for negative effects, although this is dependent on the type, exact location and design of projects proposed under this remit.
12. Protect and improve local air quality, particularly in the AQMAs	++	It is likely that active and sustainable modes of transport will be prioritised under the Smart Cities Peterborough remit therefore air quality improvements are likely.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	++	It is likely that active and sustainable modes of transport will be prioritised under the Smart Cities Peterborough remit therefore reductions in GHG emissions are likely.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	There is potential for the infrastructure improvements to affect climate resilience. However, this will depend on the type, exact location and design of the improvements.
15. Maximising the use and lifespan of existing transport infrastructure	+	The Smart Cities Peterborough initiative has the potential to implement innovative ways to use existing infrastructure to its full potential.

Summary:

Given that the aim of the Smart Cities Peterborough is to deliver a more sustainable city to live and work in, the transport projects are likely to promote active and public modes of transport over using private car. This is likely to result in air quality improvements and GHG reductions. Health benefits are also likely to occur as a result of active travel and also through improving air quality. The effects on biodiversity, the historic environment, landscape and townscape, the water environment, flooding, soils and climate resilience are uncertain given that the exact type, location and design of the projects is unknown. However, it is likely that they will take a holistic approach.

Table 35: North Westgate Redevelopment

Intervention name	North Westgate Redevelopment
Further Information	Highway improvements are still being determined and these will be developed as part of the master planning process
Local Authority	Peterborough
Current status	Pre-feasibility (2021-25)
Location	North Westgate Redevelopment extends from Bourges Boulevard across to Lincoln Road, and from Bright Street on the north side to Westgate at the south.
Baseline	<ul style="list-style-type: none"> Listed buildings within the proximity of the development area Urban Grade Agricultural Land Flood Zone 1 River Nene approximately 1km from development area

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	+	The highway improvements may reduce congestion which could result in improvements to air quality and benefits for health. Minor positive effects have been identified.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	There may be indirect positive effects on the health and safety of the road network as a result of the highway improvements associated with the North Westgate Redevelopment.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+	The highway improvements associated with the North Westgate Redevelopment will likely increase accessibility, linking up this new mixed use development with other areas of the city.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+	The highway improvements will help to increase the accessibility to this new development. This will likely encourage businesses to locate there and attract visitors, benefitting and contributing to the local economy.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+	There may be improvements to road traffic congestion as a result of the highway improvements. The North Westgate Development should consider accessibility from active and sustainable modes of transport alongside the highway improvements.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	0	There is unlikely to be any effects on biodiversity as a result of this project.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / -	The project has the potential to negatively affect the historic environment. There a number of listed buildings within the proximity of the development area therefore improvements to the road surrounding the development site may have negative effects on the setting of these buildings.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	- / +	The townscape may be negatively affected during the construction phase of the highway improvements. However, there is potential for the improvements to reduce congestion and improve accessibility which will likely lead to improvements for the townscape. Mixed effects have been identified.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	0	There is unlikely to be any effects on soils given the works will likely occur within a built-up urban area.
10. Protect and enhance the quality of the water environment	0	There is unlikely to be any effects on the water environment given the works will likely occur within a built-up urban area and appropriate drainage will likely be in place. There may be additional drainage required as part of the works and there is potential to consider Sustainable Urban Drainage Systems (SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	It is unlikely that the works will contribute to the risk of flooding given they will likely occur within a built-up area and appropriate drainage will likely be in place. There may be additional drainage required as part of the works and there is potential to consider SuDS. The North Westgate Development is located in Flood Zone 1 therefore the connecting highways are likely to be at a lower risk of flooding. However, there is an area of Flood Zone 2 and 3 to the south therefore if the improvements extend to this area, there may be a higher risk of flooding.
12. Protect and improve local air quality, particularly in the AQMAs	+	The project has the potential to result in benefits for air quality if the highway improvements lead to a reduction in congestion.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	The project has the potential to result GHG reductions if the highway improvements lead to a reduction in congestion.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	0	There is unlikely to be any effects on climate resilience as a result of the project.
15. Maximising the use and lifespan of existing transport infrastructure	+	By improving the existing highways around the North Westgate Development site, the use and efficiency of the road network will likely be improved and its use maximised.

Summary:

The project aims to improve the highways around the proposed North Westgate Development in the city centre of Peterborough. The improvements have the potential to reduce congestion in this area of the city which will likely benefit air quality, GHG emissions and maximise the use and efficiency of the road network. The project will likely increase the accessibility of this development, connecting it with other areas of the city, which will help to contribute to the local economy and success of the development. There may also be positive effects on the townscape if congestion is reduced as a result of the project, however there may be negative effects to the townscape during the construction phase. There is also potential for negative effects on the historic environment. No effects are anticipated for biodiversity, soils, the water environment and climate resilience. There is potential for the highway works to be affected by flooding, however this is uncertain given the exact location is unknown.

H.2 Projects in Greater Cambridge

Table 36: Newmarket to Cambridge Track Doubling

Intervention name	Newmarket to Cambridge Track Doubling
Further Information	Additional passing bays or full double tracking to enable increase in frequency to half hourly of services between Cambridge, Newmarket and Ipswich.
Local Authority	Cambridge
Current status	
Location	Railway line from Cambridge to Newmarket and Ipswich
Baseline	<ul style="list-style-type: none"> • 13 SSSIs: direct impact on Fulbourn Fen and Norton Wood SSSIs • 8 LNRs: direct impact on Coldham's Common; Needham Lane; and Bramford Meadows LNRs • 3 Ancient Woodlands: Hazel Wood and Norton Wood twice (rail passing through the woodland) • 5 scheduled monuments • 55 listed buildings: 3 in Bury St Edminds; 2 near Thuston directly along railway line and Stowmarket Station is listed • Agricultural Land Grades 2 and 3a • Passes within Flood zone 3 on multiple occasions • River Kennett, River Lark and River Gipping • AQMA Cambridge, AQMA A14 Corridor; AQMA Newmarket; AQMA St Edmundsbury Borough; AQMA Sudbury and AQMA Ipswich No.1 to 5

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	+	Minor indirect positive effect on population as the increased service frequency will encourage more train travel over travel by car, which may reduce air pollution and associated health problems.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	There is unlikely to be any direct effects on the health and safety of the transport network, however there may indirect positive effects if there is a reduction in the number of vehicles on the road which will contribute to reducing the likelihood of accidents.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+++	With increased frequency of train services between three city and towns, major positive effect is expected on accessibility to key services, employment and recreational areas for these communities.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+++	With additional passing bays and increased frequency of train services, major positive effect is expected on the transport network, thereby supporting and contributing to local economic growth and competitiveness.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+++	Increased frequency of train services will have major positive effect on the promotion of sustainable modes of transport and will also reduce the need to travel by car as the scheme is expected to offer more service options for travellers, which consequently will reduce congestion.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / - -	There is potential for moderate negative effects on biodiversity and geodiversity as the existing rail line is near or runs along multiple SSSIs, LNRs and local wildlife sites. The scheme will potentially require additional land to accommodate the passing bays and double tracks and increase train frequency will increase disturbance to biodiversity. Furthermore, the existing rail line passes through three ancient woodlands.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / - -	There are multiple historic resources along the existing rail line, with the Stowmarket Station as a listed building on its own and passing through the Chippenham Hall registered park and garden. Additional train services may generate more vibration to the listed buildings, resulting in negative effect; though it may also be a change to protect these resources in the process. Additionally, subject to the construction methods to be adopted, there is potential for discovery in the process.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	? / -	Depending on the extent of additional passing bays and double tracks, there could be negative effect on landscape and townscape character, though minor as there is already an existing rail line. There may also be improvements to the townscape if the number of vehicles is reduced as a result of improved public transport.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	? / -	There are various Grade 2 and Grade 3a agricultural land next to the existing rail line in Kentford and Elmswell. Subject to the final design and approach to increase train service frequency, there may be minor negative effects.
10. Protect and enhance the quality of the water environment	? / -	Key moderate negative effect on the water environment will be potential pollution to River Kennett, River Lark and River Gipping where the existing rail line is now passing through, especially during construction stage (for example, site runoff or sewage from workers).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The existing rail line passes through area of Flood Zone 3 and is therefore at a higher risk of flooding. It is anticipated that some permanent land-take is required which will increase the flood risk for certain areas along the railway route. However, unlike roads, railway ballast is permeable which would help to reduce flood risk.
12. Protect and improve local air quality, particularly in the AQMAs	++	Increased train service frequency may reduce amount of car travel and hence reduced pollution and improved air quality locally and the 10 AQMAs which the existing railway line falls within.

SEA Objectives	Assessment	Summary of Effects
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	++	Increased train service frequency may reduce amount of car travel and hence reduced associated GHG emission, therefore contribution to climate change.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	There is potential for the area of railway to be at risk from flooding. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	+	Potential minor positive effect is expected from maximising the use of existing rail infrastructure, and potentially increasing the lifespan of the road network from directing car travel to train.

Summary:

The aim of the project is to increase frequency of train services which will promote the use of public transport with improved efficiency and potentially reduce road congestion as a result. This has the potential to benefit the health of the local community through improved air quality as well as improving the health and safety of the road network. However, the existing rail line passing through and/or run along multiple sensitive receptors, which may be subjected to minor to major negative effects, depending on the final design and approach of the project.

Table 37: A505 Corridor Study

Intervention name	A505 Corridor Study
Further Information	A strategic economic growth and transport study to include outline business case development for a scheme on the A505. Reduces congestion, supports key employment sites including Granta Park, Babraham and the Genome campus with potential growth of over 11,200 jobs.
Local Authority	South Cambridgeshire
Current status	Pre-feasibility
Location	Section 1: Starts at the roundabout where the A10 meets the A505 north of Royston to Duxford Air Base Section 2: Duxford Air Base 3 options; one north, one south and one widening Section 3: M11 J10 along the A505 to the roundabout with the A1301 4 options: realignment, south (short) and south (long) Section 4: roundabout with the A1301 along the A505 to A11 at Granta Park west of Great Abington Section 5: M11 Junction 9 2 options: reconfiguration or relocation
Baseline	<ul style="list-style-type: none"> • Section 1: <ul style="list-style-type: none"> – Holland Hall (Melbourn) Railway Cutting SSSI – One Grade II Listed Building right on the roadside 'Milestone at Junction of A505 and B1368' – One scheduled monument 'Bran Ditch: an Anglo-Saxon bank and ditch between Fowlmere and Heydon, including an Anglo-Saxon burial ground, a second of medieval lynchet and an Iron Age enclosure' scheme crosses this monument – Flood zones 2 and 3 where scheme crosses Wardington Bottom (drain) – Agricultural Land Grades 2 and 3 • Section 2: <ul style="list-style-type: none"> – SSSI Thriplow Peat Holes SSSI – One scheduled monument 'Roman Settlement S of Chronicle Hills' – 34 Grade II and II* listed buildings – Duxford Airfield Conservation Area (especially impacted by Option 2a) – Agricultural Land Grade 2 – Cambridge Greenbelt • Section 3: <ul style="list-style-type: none"> – Whittlesford Conservation area (potentially, Whittlesford Bridge Conservation Area) effected by option 3a. – One scheduled monument 'Chapel of the Hospital of St John at Whittlesford Bridge' – Two listed buildings Grade II and Grade II* – Flood Zones 2 and 3 around the 'drain' east of Whittlesford, River Cam is located south of the A505 – Agricultural Land Grade 2 and 3 – Cambridge Greenbelt • Section 4: <ul style="list-style-type: none"> – Pampisford Conservation Area – One Registered Park and Garden Grade II* – One listed building on the roadside – One scheduled monument 'Two Moated Sites 150m east of College Farm' – Agricultural Land Grades 2 and 3 – Cambridge Greenbelt • Section 5: <ul style="list-style-type: none"> – One scheduled monument 'Roman Fort, Roman Town, Roman and Anglo-Saxon Cemeteries at Great Chesterford' – Water Environment: 'drain' main river (M11 crosses northbound of Junction) Flood Zones 2 and 3 – Agricultural land Grades 2 and 3

SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	+	This project does not aim to improve the health of the population; however, the project suggests capacity improvements to resolve severe delays that are currently experienced on the A505 corridor in multiple locations. Although there are no AQMAs at the project locations, by improving capacity would result in minor to moderate positive effects to the local air quality due to reduced idling traffic which would have benefits for health of local residents.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	++	Improvements to the capacity of the A505 will have positive effects on the health and safety of this corridor as it will ease congestion in multiple locations and could result in fewer accidents. Therefore, a moderate positive effect is anticipated.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+++	Improvements to the capacity of the interchange will have positive effects on reducing congestion which will help to improve accessibility to key services, employment and recreational areas such as Granta Park, Babraham and Genome campus with the potential growth of over 11,200 jobs. Therefore, a major positive effect is anticipated.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+++	Improvements to the capacity of the interchange will have positive effects on reducing congestion which will help to improve reliability and efficiency of the transport network which will have a positive impact on supporting and contributing to the local economic growth of the area. The improvements to the A505 will also support key employment sites such as Granta Park, Babraham and Genome campus with the potential growth of over 11,200 jobs. Therefore, a major positive effect is anticipated.

SEA Objectives	Project Assessment	Summary of Effects
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+	Improvements to the capacity of the A505 corridor will have positive effects on reducing congestion. This will make public transport more reliable and efficient, however upgrading the A505 will not encourage people to take public transport. Therefore, a minor positive effect has been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / -	The options selected for each section will determine the protection of biodiversity. Online options will require less land-take than realignment or relocation options. Therefore, reducing the impacts on the SSSIs. However, offline options could have a minor negative effect on designated sites.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	--	The project sections are within close proximity to multiple Grade II and II* listed building, some are located on the roadside. These buildings could experience minor negative effects from vibration caused by increased traffic or from the construction of additional lanes. There could also be a minor negative impact on buried archaeology from widening the roads or realignment of the roads. There are multiple scheduled monuments within close proximity which the project could impact the setting of. The A505 corridor project could also have impacts on the multiple conservation areas and the Grade II* registered Park and Garden. Increasing the number of lanes will reduce congestion which may have positive effects on the setting of the Conservation Area. The addition of new lanes will alter the Conservation Area, however, given that there is an existing busy road effects are considered minor. Overall a moderate effect has been identified.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	-	Increasing the capacity of the A505 corridor by widening to a dual carriageway will reduce congestion which may have positive effects on the setting of the landscape. The addition of new lanes will alter the landscape, however, given that there is an existing busy road effects are considered minor. If boundary trees used for screening are removed this may have a bigger effect on the character of the landscape
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	-- / -	The options selected for each section will determine the permanent land-take required for the project. The Grade of Agricultural land at the different sections of the project is Grades 2 and 3. Online options will require less land-take than realignment or relocation options. Therefore, dependent on the options chose, a minor to moderate negative effect is anticipated. Additionally, Cambridge Greenbelt could be impacted depending on the different options
10. Protect and enhance the quality of the water environment	? / -	The enhancements to the road network along this corridor, are likely to increase the impermeable surface area and will therefore increase the risk of contaminated run-off. The River Cam and Wardington Bottom (drain) and drain to the east of Whittlesford are located within close proximity of the scheme. However, the updates required may require updated drainage which, although minor could have a potentially positive impact on the quality of the water environment through implementation of sustainable drainage (for example, SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is located at various points (in sections 1 and 3) in Flood Zones 2 and 3. Therefore, given the project would increase the impermeable surface area to allow for greater capacity along the A505, the project may contribute to the risk of flooding. Appropriate drainage will need to be considered alongside the project.
12. Protect and improve local air quality, particularly in the AQMAs	+ / ++	The different project sections are not located in an area with an AQMA. This coupled with the improvements to alleviate congestion will reduce the number of cars queuing, which will result in minor improvements to the air quality. Therefore, a minor to moderate positive effect has been identified.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	The project looks to improve alleviate the local highway congestion along the A505 corridor. Reducing the congestion will help to reduce GHG emissions slightly but could also see an increase in road users, therefore a minor positive effect is anticipated.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project is partially located (in sections 1 and 3) in an area identified as being at risk from flooding. Therefore, increasing the impermeable surface area these locations through road improvements could increase the risk of flooding. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	- / +	Currently, there are different options for Sections 2, 3 and 5 of the A505 corridor such as online widening and realignment. A minor negative effect has been identified where current infrastructure will not be utilised such as Option 2b (northern realignment), Option 2c (southern realignment), Option 3b (northern realignment), Option 3c (southern realignment short), Option 3d (southern realignment long) and Option 5b (relocation). A minor positive effect has been identified for the remaining options as they shall maximise the current infrastructure and will require online widening.

Summary:

This project aims to improve orbital accessibility and alleviate congestion along the A505 corridor. Major positive effects are anticipated with regard to improving accessibility to key services and supporting and contributing to local economic growth by delivering an efficient transport network. Minor positive effects are anticipated for the health of residents local to the scheme locations and moderate positive effects on the overall health and safety of the A505 corridor by reducing congestion. Moderate negative effects are expected around the conservation of soils and the historic environment. Minor negative effects have been identified with regard to the landscape and townscape. There is also potential for negative effects on biodiversity, the water environment, flooding and climate resilience.

Table 39: Coldham's Lane Improvements

Intervention name	Coldham's Lane Improvements
Further Information	Design phase of improvements to the junction of Coldham's Lane, Brooks Road and Barnwell Road, Cambridge. Aim to improve safety for cyclists. Remodelling roundabout to improve safety and provide crossings on each arm. Improved road safety encourages walking and cycling to major urban development of over 1,200 new homes in East Cambridgeshire.
Local Authority	Cambridge
Current status	Pre-feasibility
Location	Roundabout junction where Coldham's Lane, Brooks Road and Barnwell Road (A1134) meet in Cambridge
Baseline	<ul style="list-style-type: none"> • 3 LNRs: Barnwell, Barnwell II (closest to could impact slightly) and Coldham's Common • Cambridge Greenbelt • Close to Cambridge AQMA • Flood zones 2 and 3 where Cherry Hinton Brook crosses under Coldham's Lane and Barnwell Road • Unnamed Lakes to the south and Cherry Hinton Brook

SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	++	This project is not aimed at improving the health of the population, it does have the intention of providing improved road safety at this roundabout junction which will help improve safety for pedestrians and cyclists, therefore encouraging walking and cycling. Therefore, a moderate positive effect is anticipated.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	++	Improvements to the roundabout to improve safety for cyclists will have positive effects on the health and safety of this junction as it will allow more cyclists to use the roundabout more safely and could result in fewer accidents. Therefore, a moderate positive effect is anticipated.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+ / ++	Improvements to the junction will allow improved road safety, encourages walking and cycling to the major urban development of over 1,200 new homes in East Cambridgeshire. Therefore, a minor to moderate positive effect is anticipated.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+	Improvements to the junction will allow improved road safety, encourages walking and cycling will have positive effects on reducing congestion which will help to improve reliability and efficiency of the transport network which will have a positive impact on supporting and contributing to the local economic growth of the area. Therefore, a minor positive effect is anticipated.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	++	Improvements to the capacity of the interchange will have positive effects on reducing congestion and the need to travel by car, making the roundabout safer for cyclists and walkers. Reducing the need to travel by car could have the effect of making public transport more reliable and efficient, and will potentially encourage more people to use active forms of travel.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / -	There are 3 LNRs to the north of the roundabout. Dependent on the re-modelling, there could be neutral impacts to these designated sites. The project is also located within the Cambridge Greenbelt.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	0	There are no historic assets identified at the scheme location. Therefore, a neutral effect is anticipated.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	+	Remodelling the roundabout will reduce congestion which may have positive effects on the setting of the landscape. The addition of new infrastructure will alter the landscape, however, given that there is an existing busy road effects are considered mixed.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	0	The project is located on urban or non-agricultural land. It is therefore anticipated that the effect on soils would be neutral.
10. Protect and enhance the quality of the water environment	? / -	The remodelling to the roundabout is likely to take place on already impermeable surfaces. However, there is potential for contaminated run-off during the works. There are some unnamed waterbodies located adjacent to the south of the scheme and Cherry Hinton Brook.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is located in Flood Zones 2 and 3 where Cherry Hinton Brook crosses under Coldham's Lane and Barnwell Road. The project is likely to take place on already impermeable surface area, however drainage may need to be updated as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	++	The project is not located in an area with an AQMA, however it is close to Cambridge AQMA. This coupled with the improvements of the roundabout, encouraging people to walk and cycle rather than drive will reduce congestion, which will result in improvements to the air quality. Therefore, a minor to moderate positive effect has been identified.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+ / ++	The project looks to make the Coldham's Lane roundabout safer for cyclists and walkers to use. Encouraging people to use other modes of transport other than cars. Also, by remodelling the roundabout this could reduce congestion at the junction. The project will help to reduce GHG emissions slightly, therefore, a moderate positive effect is anticipated.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project is located in an area identified as being at risk from flooding. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues.
15. Maximising the use and lifespan of existing transport infrastructure	+	The project aims to update the current infrastructure to improve the roundabout for use by walker and cyclists. This would be utilising the current infrastructure; however, it will also be updating the current infrastructure, therefore an overall minor positive effect is anticipated.

Summary:

This project aims to improve safety for cyclists at the Coldham's Lane roundabout to provide crossings on each arm. The improved road safety encourages walking and cycling and reduces private car use, which allows for positive effects on local air quality, minimising GHG emissions, health of the population, improving the health and safety of the transport system and reducing road traffic allowing for increased reliability of the public transport network and for greater efficiency and reliability of the transport network as a whole. Neutral and minor negatives of this scheme are with regard to flooding, the water environment, the historic environment, biodiversity and protection of soils.

Table 42: Greenways Development

Intervention name	Greenways Development
Further Information	Creating a high-quality network of 12 separate Greenway routes to connect local villages with Cambridge city. Each Greenway has its own timetable. Consultation has finished on two routes (Barton and Haslingfield) and is underway on a further 2 (Fulbourn and Waterbeach). A programme of 'quick wins' has been identified and these are now under construction.
Local Authority	Cambridge
Current status	
Location	Cambridge and the wider area – 12 separate Greenway routes from the following towns into Cambridge: Waterbeach; Horningsea; Swaffham; Bottisham; Fulbourn; Linton; Sawston; Melbourn; Haslingfield; Barton; Comberton and St Ives
Baseline	<ul style="list-style-type: none"> • 22 SSSIs: Thriplow Peat Holes; Barrington Chalk Pit; Fulbourn Fen; Furze Hill; Fowmere Watercress Beds; Great Wilbraham Common; Madingley Wood; Hardwick Wood; Stow-cum-Quy Fen; Triplow Meadow; Overhall Grove; Whittlesford-Triplow Hummocky Fields; Fleam Dyke; Wilbraham Fens; God Magog Golf Course; Roman Road; Traveller's Rest Pit; Cherry Hinton Pit; Dernford Fen; Histon Road; Sawston Hall Meadows; and Alder Carr • 14 LNRs: Barnwell; Barnwell II; Bramblefields; Byron's Pool; Coldham's Common; Mare Fen; Logan's Meadow; Limekiln Close (and West Pit); East Pit; Worts Meadow; Sheep's Green and Coe Fen; The Beechwoods; Paradise; and Nine Wells. • 2 Ancient Woodlands: Madingley Wood; another Ancient & Semi-Natural Woodland with no name. • Large number of listed buildings and scheduled monuments • Flood zones 2 and 3 • A14 Corridor AQMA and Cambridge AQMA • River Cam • Agricultural Land Grade 2, 3a and 3b • Registered Parks and Gardens

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	+++	The Greenways will promote cycling and walking, which will generate health benefits, but also potentially the need for car travel, thereby reducing air pollution. Furthermore, routes proposed so far cover a wide area, reducing inequalities between areas. Therefore, major positive effects have been identified.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	The introduction of designated walking and cycling routes will reduce the likelihood of road accidents with between different types of road users. Therefore, minor positive effect has been identified.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+++	The Greenways Development will provide designated walking and cycling routes connecting different areas around the Cambridge city, which is expected to have major positive effect on accessibility especially to recreational areas for all areas of the community in Cambridge.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+	There is potential for minor positive effects given that the project aims to increase accessibility by walking and cycling. This may also have indirect positive effects on making the road network more efficient.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+++	Provision of designated walking and cycling routes will have major positive effects on the promotion of sustainable transport modes and reducing the need for car travel.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / -	There are multiple SSSIs, LNRs and ancient woodlands along the 12 proposed routes. There are potential minor negative effects on overall biodiversity and geodiversity associated with the introduction of cycling routes as it may increase human disturbances from recreation use and construction.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / -	There are large number of listed buildings, scheduled monuments and registered parks and gardens along the 12 proposed routes. Subject to detailed design of these routes, there is a potential for minor negative effect, though unlikely.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	? / -	Potential minor negative effects on townscape and landscape character is expected from the introduction of walking and cycling routes branching out to nearby towns within Cambridgeshire. However, there may also be benefits if the number of vehicles are reduced as a result of the project.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	? / -	There are various Grade 2, 3a and 3b agricultural along the 12 Greenway routes, therefore subject to final route design, there may be minor negative effects from encroaching onto these areas.
10. Protect and enhance the quality of the water environment	? / -	Two of the proposed routes (Waterbeach and Haslingfield) next to and/or crosses River Cam, where existing greenway already exist and works involved are expected to be enhancement, widening or additional route across the River. Considering these areas fall within a Flood Zone 2 and 3, potential minor negative effect on the river is expected if construction is carried out during wet season. Moreover, depending on construction method, site runoff may potentially have a negative effect on the water environment.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	Given the areas potentially fall within areas at higher risk of flooding, the routes may be at risk of flooding. The project may also increase the impermeable surface area which can contribute to a higher risk of flooding. Appropriate drainage will need to be considered.
12. Protect and improve local air quality, particularly in the AQMA	+++	Major positive impact on local air quality, particularly the A14 Corridor AQMA and Cambridge AQMA which this project falls within. The provision of new or improved walking/cycling/equestrian routes may reduce car travel and associated air pollution.

SEA Objectives	Assessment	Summary of Effects
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+++	Major positive effect on minimising GHG emissions from the potential reduction in car use, hence associated emissions, and Cambridgeshire's contribution to climate change.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	There may be an increase in the impermeable surface area. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	0	There is unlikely to be effects on transport infrastructure, therefore a neutral impact has been identified.

Summary:

The proposed 12 greenways span across different areas within Cambridgeshire, include multiple SSSIs, LNRs and ancient woodland; therefore, there is likely to be minor negative effects from increased human / recreational disturbance, and to landscape and townscape character. Furthermore, two of the routes are within Flood Zone 3 and along the River Cam; consequently, potential minor to moderate negative effect on flood risk and water environment has been identified. Nevertheless, the project will promote and encourage the use of sustainable transport mode, including walking and cycling, and therefore has a general positive effect on human health (benefits from the activity), air quality (reduced car travel).

Table 43: Jesus Green Lock

Intervention name	Jesus Green Lock
Further Information	Upgrades to cycling routes and resolve crossing (new bridge) in the vicinity of Jesus Green Lock existing pedestrian bridge.
Local Authority	Cambridge
Current status	
Location	Jesus Green, Cambridge
Baseline	<ul style="list-style-type: none"> Listed buildings with Jesus Green Lock House most at risk Flood zones 2 and 3 River Cam Cambridge AQMA

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	++	Moderate positive effects are expected from the health benefits generated from cycling, which is expected to be more encouraging from the route upgrades and new bridge crossing. There may be a reduction in car travel as a result of the upgrade which may lead to health benefits through improvements in air quality.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	++	There is likely to be improvements to the health and safety of the road network given the project aims to resolve crossing issues by providing a new bridge. Cyclists will therefore be able to travel safer.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	Upgraded cycling routes and new bridge crossing will improve the overall accessibility in an area where cycling is common. Hence, moderate positive effect has been identified.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	0	There is unlikely to be effects on the economy, therefore a neutral impact has been identified.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+++	Major positive effect is expected as the upgrade of cycling routes and new bridge crossing will encourage more sustainable transport mode, and improved accessibility will potentially reduce the need for car travel.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	0	There is unlikely to be effects on biodiversity, where any disturbance during construction of the new bridge is expected to be minor and temporary. Hence a neutral impact has been identified.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	- / 0	There are several listed buildings in close proximity to the project, which may or may not cause negative effects, depending on details and methods of the proposed works. However, it is more likely that these listed buildings will be protected during construction stage and there will be no effects.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	- / 0	Upgrading of the existing cycling routes is not expected to have any effects on the landscape and townscape character. However, depending on new bridge design, it may have a minor negative effect.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	0	There is unlikely to be effects on soil quality and loss of agricultural / greenfield land, or opportunities to remediate contaminated land. Therefore, a neutral impact has been identified.
10. Protect and enhance the quality of the water environment	? / -	There will be potential minor negative effects on River Cam which the proposed new bridge will be crossing, especially during construction if appropriate measures are implemented; and potentially increased runoff into the river.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	0	There is unlikely to be effects on transport infrastructure, nor flood risk to it, therefore neutral impact has been identified.
12. Protect and improve local air quality, particularly in the AQMAs	++	Although cycling is fairly common in the area, upgrade of existing cycling route and provision of new bridge crossing is expected to further encourage cycling, potentially reducing vehicular and improve air quality locally and within the Cambridge AQMA.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	++	Although cycling is fairly common in the area, upgrade of existing cycling route and provision of new bridge crossing is expected to further encourage cycling, potentially reducing GHG emissions from car travel and improve air quality locally and within the Cambridge AQMA.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	0	There is unlikely to be effects on vulnerability to climate change by minimising flood risk. Therefore, a neutral impact has been identified.
15. Maximising the use and lifespan of existing transport infrastructure	+	The project is expected to encourage more cycling activities over car travel, which will potentially reduce traffic volume and delay road surface deterioration, thereby maximising the lifespan of existing transport infrastructure. Therefore, a minor positive effect has been identified.

Summary:

Positive effects are generally expected from the project as it will encourage cycling with improved routes and accessibility, improving air quality and having benefits for the health of the local population whilst making the transport network safer. However, as the existing routes and proposed bridge will be along and/or across the River Cam, there will be potential negative effect on water environment.

Table 45: Mitigation of Local Impacts of Waterbeach Development

Intervention name	Mitigation of Local Impacts of Waterbeach Development
Further Information	Package of schemes to mitigate development impacts. Includes wider Waterbeach pedestrian / cycle network.
Local Authority	Cambridge
Current status	
Location	Waterbeach
Baseline	<ul style="list-style-type: none"> • Cambridge Greenbelt • 2 scheduled monuments and multiple listed buildings within Waterbeach • A14 Corridor AQMA • Flood zones 2 and 3 • River Cam • Agricultural Land Grade 2 and 3

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	++	The provision of a pedestrian cycle network will encourage more cycling, where the activity itself will generate health benefits. There is potential for car travel to be reduced as a result from the bus, rail and active travel measures therefore resulting in health benefits from improved air quality.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+++	Proposed measures such as level crossing, improved road access for vehicles and pedestrians and signal adjustments, will all have major positive effects on the overall health and safety of the transport network within the Waterbeach area, and reducing the number of accidents.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+++	The aim of this scheme is to mitigate the travel impact and needs from the population influx of the proposed Waterbeach Development (11,000 dwelling). The relocation of railway station, provision of pedestrian cycle network and improved bus network will improve overall accessibility for the Waterbeach community.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	The proposed transport measures will not only improve local accessibility, but also provide connection to the Cambridge city centre, thereby supporting and contributing to economic growth and competitiveness.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	++	The scheme consists of a variety of transport packages, where the provision of pedestrian cycle network and improved bus and rail network will contribute to the promotion of sustainable transport mode and potentially the need for car travel. However, effects on road traffic and congestion is yet to be determined.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / -	There is unlikely to be effects on biodiversity as the proposed scheme is to address transport needs of new developments which will occur regardless. However, the transport infrastructure may lead to land-take and biodiversity loss therefore there is potential for negative effects.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / -	The proposed greenway and new bus link will run across or pass multiple listed buildings and a few scheduled monuments. Subject to detailed design of these schemes, there may be opportunity to maintain / protect on these resources but may also cause direct and indirect negative effects from construction.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	? / -	This scheme aims to introducing multiple transport infrastructure projects to the area. This may lead to a change in landscape, depending on where the projects are location.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	? / -	There is potential for effects on soils or loss of agricultural/greenfield land if the new transport infrastructure requires land-take. However, the schemes are expected to be in the vicinity of existing infrastructures and therefore neutral impact has been identified.
10. Protect and enhance the quality of the water environment	? / -	The package of schemes are not located in close proximity to any waterbodies, therefore there is unlikely any effects on the water environment. However, there may be an increase in the impermeable surface area which could lead to an increased risk of contaminated run-off.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is located within Flood Zone 2 and 3 and is therefore at a higher risk of flooding. There may be an increase in the impermeable surface area as a result of the new transport infrastructure associated with this project. This has the potential to contribute to the risk of flooding therefore appropriate drainage will need to be considered alongside the project.
12. Protect and improve local air quality, particularly in the AQMAs	0 / +	Although the package of schemes is to accommodate more traffic, the increased traffic volume is not induced by the project but the Waterbeach Development and therefore neutral impact has been identified in this regard. However, as the schemes focus on sustainable transport mode, there is potentially positive effect on air quality locally and within the A14 Corridor AQMA.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	0 / +	Although the package of schemes is to accommodate more traffic, the increased traffic volume and hence associated GHG emission, is not induced by the project but the Waterbeach Development and therefore neutral impact has been identified in this regard. However, as the schemes focus on sustainable transport mode, there is potentially positive effect on minimising GHG emission and reducing Cambridgeshire's contribution to climate change.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project has the potential to increase the impermeable surface. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.

SEA Objectives	Assessment	Summary of Effects
15. Maximising the use and lifespan of existing transport infrastructure	++	The package of schemes involves provision of new transport infrastructure for accommodating future transport need which the existing infrastructure may not have to capacity to handle. Existing transport infrastructure will be relieved from potential stress from new developments, thereby maximising its lifespan.

Summary:

This scheme is to mitigate the traffic and transport impact associated with the Waterbeach Development and therefore will generally have a positive effect on the SEA objectives especially it involves the provision and promotion of sustainable transport modes (walking, cycling, public transport). There is potential for negative effects on biodiversity, the historic environment, the landscape, soils, the water environment, flooding and climate resilience.

Table 46: Newmarket West Chord

Intervention name	Newmarket West Chord
Further Information	New chord to enable direct services between Soham, Newmarket and Cambridge.
Local Authority	East Cambridgeshire
Current status	
Location	Along the railway between Ely, Soham, Newmarket and towards Cambridge
Baseline	<ul style="list-style-type: none"> Ely Pits and Meadows SSSI Partially within Flood zone 2

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	+	Indirect minor positive effect on population health is expected from the potential reduction in air pollution from the diversion of car travel to the resumed train service.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	There is potential for indirect effects on the health and safety of the transport network given that the project may lead to a reduction in the number of vehicles on the road.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+++	The provision of direct train services to and from Soham, Newmarket and Cambridge city will have major positive effect on accessibility to key services, employment and recreational areas for these communities, as it will avoid the need for service change.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	The resumed direct train service will increase the efficiency of transport network, improving accessibility, thereby supporting and contributing to the local economic growth.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+++	The direct train service will encourage people to use public transport rather than car travel as it will be more convenient, consequently reducing road traffic and congestion. Therefore, major positive effect has been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	---	With the Ely Pits and Meadows SSSI immediately next to and within the 'Newmarket west curve', reinstating the rail and provision of train services will introduce new disturbance to the nationally important SSSI which supports a variety of breeding and wintering birds. The SSSI is also a Geological Conservation Review site.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	0	There is unlikely to be effects on the historic environment, therefore a neutral impact has been identified.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	0	As the project only involves the reinstatement of the existing Newmarket west curve where no significant changes to the overall appearance is expected. Therefore, a neutral impact has been identified.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	- / 0	Depending on the reinstatement works involved, there is unlikely to be effects on the quality of soils if it is confined within the existing track area. However, should there be any extension, or accidental encroachment, there may be minor negative effect.
10. Protect and enhance the quality of the water environment	-	Construction site runoff may potentially affect the open waters in Ely Pits and Meadows SSSI, therefore minor negative impact has been identified.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	Part of the route is located within Flood Zone 2 therefore potential for flood risk exists. There may be an increase in flood risk from the introduction of the new railway.
12. Protect and improve local air quality, particularly in the AQMAs	+	The provision of direct train service is likely to have minor positive effects on local air quality as it may reduce pollution from car travel. Although the Newmarket West Curve is not located within an AQMA, the resumed direct train service will pass through three other AQMAs, which will also benefit from the potential reduction.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	The provision of direct train service is likely to have minor positive effects as car trips may be reduced and therefore associated GHG emission.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The new railway may contribute to an increase risk of flooding. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues.
15. Maximising the use and lifespan of existing transport infrastructure	+++	Reinstating the existing Newmarket west curve will maximise the use of existing transport infrastructure and therefore major positive effect has been identified.

Summary:

The reinstatement of the existing Newmarket West Chord will mainly have positive effects as it will improve public transport, accessibility by public thereby supporting growth, and improve air pollution by direct car trips to train travel. However, as the Newmarket west curve is located within a SSSI of national importance in supporting breeding and wintering bird, which is also a geological conservation review site, there may be potential negative effects from the resumed train service causing increased disturbance.

H.3 Projects in East Cambridgeshire

Table 48: Queen Adelaide Road Study

Intervention name	Queen Adelaide Road Study
Further Information	Highway scheme to mitigate the impact of increased periods of level crossing closures.
Local Authority	East Cambridgeshire
Current status	
Location	3 level crossings along the B1382 in Queen Adelaide. 3 crossing are with the railway lines for Peterborough, Kings Lynn and Norwich.
Baseline	<ul style="list-style-type: none"> Ely Pits and Meadows SSSI Agricultural Land Grade 1 and non-agricultural Flood zones 2 and 3 (apart from Peterborough crossing) Crosses River Great Ouse but whole project is in area benefitting from flood defences

SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	0 / +	It is unlikely that the level crossing improvement will have an effect on the health of the population. However, the project aims to reduce congestion and therefore idling cars. Therefore, a neutral to minor positive effect is anticipated due to increased air quality for local residents.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	Improvements to the period of time the level crossings are closed will have positive effects on the health and safety of these levels crossings as it will ease congestion and could result in fewer accidents. Therefore, a minor positive effect is anticipated.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+ / ++	Improvements to the level crossings will have positive effects on reducing congestion which will help to improve accessibility to key services, employment and recreational areas, for both road traffic and rail traffic. Therefore, a minor to moderate positive effect is anticipated.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+	Improvements to the level crossings will have positive effects on reducing congestion which will help to improve reliability and efficiency of the transport network which will have a positive impact on supporting and contributing to the local economic growth of the area. Therefore, a minor positive effect is anticipated.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	0 / +	Improvements to the level crossings will have positive effects on reducing congestion. This will make public transport more reliable and efficient, however upgrading the junction will not encourage people to take public transport. Therefore, a neutral to minor positive effect has been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / -	Ely Pits and Meadows SSSI is located within 1km of the scheme. There is a small possibility for the project to have negative impacts on this site. In addition, there is no greenbelt affected by this project.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	0	There are no historic assets identified at the scheme location. Therefore, a neutral effect is anticipated.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	0 / -	Increasing the period of level crossing closure along Queen Adelaide road will reduce congestion which may have positive effects on the setting of the landscape. The addition of new infrastructure will alter the landscape, however, given that there is an existing busy road effects are considered neutral to minor negative.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	0 / -	The level crossing improvements along Queen Adelaide road are located within Grade 1 and non-agricultural land. Depending on the improvements to the level crossings, permanent land-take may be required. Therefore, a neutral to minor negative effects are anticipated.
10. Protect and enhance the quality of the water environment	? / -	The enhancements to the road network at the level crossings could increase impermeable surfaces which could contribute the risk of contaminated run-off. There are some waterbodies located close to the scheme and Queen Adelaide road crosses the River Great Ouse. Any enhancements to this section of road could result in reduced protection of the water environment, however the project is located in an area benefitting from flood defences and there is potential for enhancements to the infrastructure and its drainage such as SuDS.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is located in Flood Zone 2 and 3, apart from the Peterborough level crossing. Therefore, if the scheme requires infrastructure improvements in the shape of more lanes, this would increase the impermeable surface area. Improved drainage on the current infrastructure combined with the fact that the project is located within a Flood Zone, could result in increased flood risk.
12. Protect and improve local air quality, particularly in the AQMAs	+	The project is not located in an area with an AQMA. This coupled with the improvements to alleviate congestion along Queen Adelaide road will reduce cars queuing, which will result in minor improvements to the air quality. Therefore, a minor positive effect has been identified.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	The project looks to alleviate congestion at these level crossings. Reducing the congestion will help to reduce GHG emissions slightly but could also see an increase in road users, therefore a minor positive effect is anticipated.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project is located in an area identified as being at risk from flooding. Therefore, increasing the impermeable surface area through road improvements could increase the risk of flooding. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	+	The project aims to update the current infrastructure to mitigate the impact of increased periods of level crossing closures to ease the congestion. This would be utilising the current infrastructure; however, it will also be updating the current infrastructure, therefore an overall minor positive effect is anticipated.

Summary:

This project aims to mitigate the impact of increased periods of level crossing closures and relieve congestion through improving existing links and developing a more flexible network. Minor negative effects are anticipated with regard to biodiversity, the water environment risks of flooding and climate resilience. Minor positive effects have been identified with regard to maximising the current infrastructure, reducing GHG emissions, improved air quality, and health of local residents and improved health and safety with a more efficient transport network. Neutral effects have been identified for the protection of soils, maintaining the landscape and townscape and the historic environment.

Table 50: Pedestrian and Cycle Bridge – Henley Way to Merivale Way

Intervention name	Pedestrian and Cycle Bridge – Henley Way to Merivale Way
Further Information	Bridge between Henley Way and Merivale Way. Linking two large housing developments and connecting into the Lisle Lane route. This route would also connect up the Ely North development.
Local Authority	East Cambridgeshire
Current status	
Location	Henley Way and Merivale Way in Ely
Baseline	<ul style="list-style-type: none"> Ely Pits and Meadows SSSI (Ely Pits also known as Roswell Pits)

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	++	Provision of pedestrian and cycle route will generate health benefits from walking and cycling, while potential reduction in car travel will reduce air pollution and contribute positive to associated health issues.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	++	There may be moderate positive effect on the safety of transport network as the designated pedestrian and cycle bridge will provide a safe environment for users to access nearby areas, reducing the likelihood of car-pedestrian accidents.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	The new bridge will provide the missing link to the Lisle Lane route and connect to Ely North, improving overall local accessibility.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	0	There is unlikely to be effects on the reliability and efficiency of transport networks. Therefore, a neutral impact has been identified.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	++	Moderate positive effects are expected given the project will likely promote and encourage the use of cycling and walking. This could lead to a reduction in car travel and therefore improving congestion.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / -	Although the project is of small scale, it is immediately next to the Ely Pits (also known as Roswell Pits) and Meadows SSSIs, potential negative effect is expected from construction and operation (disturbance from potential increased recreational use).
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	0	There is unlikely to be effects on the historic environment, therefore a neutral impact has been identified.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	- / +	The bridge structure may change the existing environment and cause minor negative effect on the landscape and townscape character. However, there is potential for the townscape to be improved if there is more walking and cycling journeys rather than car travel.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	0	There is unlikely to be effects on quality of soils or loss of agricultural / greenfield land. Therefore, a neutral impact has been identified.
10. Protect and enhance the quality of the water environment	? / -	The waterbodies within the Ely Pits (also known as Roswell Pits) and Meadows SSSI is located in close proximity to the project, there may be potential minor negative effects given the project could lead to an increased risk of contaminated run-off. Appropriate drainage will need to be considered.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project will likely lead to an increase in the impermeable surface area which could contribute to the risk of flooding. There will need to be appropriate drainage systems considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	+	The project is expected to have minor positive effect in protecting local air quality by minimising the need for car travel for short trips to nearby areas by providing a designated pedestrian and cycle bridge.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	The project is expected to have minor positive effect in minimising GHG emission by minimising the need for car travel for short trips to nearby areas by providing a designated pedestrian and cycle bridge.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project will likely lead to an increase in the impermeable surface area which could contribute to the risk of flooding. This coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	0	There is unlikely to be effects on maximising the use and lifespan of existing transport infrastructure. Therefore, a neutral impact has been identified.

Summary:

The project will generally have positive effect on accessibility and safety of road users, with induced indirect benefits on health and air pollution. However, as the project is located in close proximity to a SSSI, there may be potential effects if measures are not taken to prevent pollution and disturbance. There is also potential for negative effects on biodiversity, the water environment, flooding and climate resilience.

Table 51: A142 Capacity and Safety Improvements

Intervention name	A142 Capacity and Safety Improvements
Further Information	Study into capacity improvements on the A142 between Ely and Chatteris. Includes safety improvements.
Local Authority	East Cambridgeshire
Current status	
Location	From the A141 roundabout with the A142 north of Chatteris to the roundabout with the A10 south-west of Ely.
Baseline	<ul style="list-style-type: none"> • Ouse Washes • Grade 1, 2 and 3a agricultural land • Old Bedford River, Hundred Foot Drain (New Bedford River)

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	- / +	Effects on population health will be mainly from the change in air pollution, which could be reduced from less idling and start-up emission due to relieved traffic congestion. However, there would be negative effect if the increased traffic after capacity improvements are more than the reduction.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+++	Safety improvements will also be considered under this study, as such, major positive effect on the health and safety of the transport network is expected and number of accidents may decrease once improvement works have been carried out.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+++	Study findings are expected to propose works for improving the safety and increasing the capacity of the A142, which will reduce congestion and accidents, thereby improving accessibility. Therefore, major positive effect is expected.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+++	Improved traffic flow and safety will result in a more reliable and efficient transport network, thereby supporting and contributing to local economic growth and competitiveness. Therefore, major positive effect is expected.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	- / 0	While congestion may be relieved as a result of this study, due to the capacity improvement works, it is not expected to be achieved through the reduction of car travel, nor promotion of sustainable transport mode, therefore a neutral impact has been identified. The improved capacity may in contrary encourage more car travel due to the reduced congestion.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / -	A section of the A142 passes through the Ouse Washes (Ramsar Site, SSSI, SAC, SPA), any capacity improvement will increase more traffic, hence increased disturbance. However, the timing of the proposed works to be carried out as a result of this study are likely to be after 2019/20, where the requirement of net gain biodiversity may already become effective, and project proponent will be obliged to biodiversity enhancement.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / -	There are a few scheduled monuments (bowl barrows) next to the concerned section of the A142 and some trial trenches nearby, indicating potential for discovery; hence, potential negative effect has been identified.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	? / -	Subject to the final works proposed and carried out from this study, the distinctiveness of the landscaper character may be affected negatively if scales are extensive, while there may be no effects if only minor works to the exiting road is carried out.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	--	There is Grade 1, 2 and 3a agricultural land immediately next to the multiple sections along the A142 between Ely and Chatteris. If capacity and safety improvements are to be achieved through road widening in these sections, there will be loss of agricultural land and therefore moderate negative effect has been identified.
10. Protect and enhance the quality of the water environment	? / -	As the part of the A142 passes through the Old Bedford River and the Hundred Foot Drain (New Bedford River), there is potential for negative effects on these water environments, especially during the construction stage. The project has the potential to increase the impermeable surface area, contributing to the risk of contaminated run-off. Appropriate drainage will need to be considered.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	There is potential for the project to increase the impermeable surface area, therefore contributing to the risk of flooding. Appropriate drainage will need to be considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	- / +	Improvement works as a result of this study can have either positive or negative effect as safer and less congested road may encourage more car travel, therefore reducing air quality. However, reduced congestion will lead to a reduction of idling and start-up emissions.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	- / +	Improvement works as a result of this study can have either positive or negative effect as safer and less congested road may encourage more car travel, therefore increasing GHG emissions. However, reduced congestion will lead to a reduction of idling and start-up emissions.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	Given the potential of an increased impermeable area coupled with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	+++	Improving the capacity and safety of the A142 will maximise the use and lifespan of existing transport infrastructure as it will provide a better driving condition.

Summary:

Major benefits are expected as this study will inform the needs for improving the safety and capacity of the A142, improving accessibility and supporting local economic growth, and the generally existing transport network and infrastructure. However, as this section of the A142 passes through a SSSI with two rivers along the SSSI boundary and agricultural soils immediately next to the road, there is potential for negative effects. There are also potential negative effects identified for the water environment, flooding and climate resilience.

Table 52: Ely to Soham Track Doubling

Intervention name	Ely to Soham Track Doubling
Further Information	Doubling the track between Ely and Soham.
Local Authority	East Cambridgeshire
Current status	Pre-feasibility
Location	Ely to Soham railway
Baseline	<ul style="list-style-type: none"> • SSSIs, SAC and NNR • Listed Buildings • Soham Lode Drain and River Great Ouse • Flood Zone 1, 2 and 3

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	+	There may be an improvement in air quality and therefore health as a result of this project as it may encourage more people to use public transport rather than their car, particularly for shorter journeys between Ely and Soham.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	There may be an indirect positive effect on the safety of the road network if the number of car journeys are reduced as a result of increased rail capacity between Ely and Soham.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	Accessibility to key services, particularly for those without access to a car, is likely to be improved as a result of this project. A moderate positive effect has therefore been identified.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	Improving the capacity of the rail offering is likely to result in benefits to the local economy as it is likely to open up more opportunities.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	++	The project will likely promote the use of rail as a viable and efficient mode of travel, particularly between Ely and Soham. This has the potential to reduce the number of vehicles on the road, therefore alleviating congestion.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	-- / +	There are a number of SSSIs and a SAC and NNR which may be affected during the construction of the project therefore moderate negative effects have been identified. However, there may also be indirect positive effects on biodiversity due to a reduction in the number of vehicles from the increased rail capacity.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	0	Listed buildings may be affected during the construction works, however this is likely to be temporary therefore a neutral effect has been identified.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	0	The setting of the landscape may be disrupted during the construction works, however it is unlikely this will change significantly therefore a neutral effect has been identified.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	--	The railway between Ely and Soham passes through Grades 1, 2 and 3 agricultural land. The doubling of the tracks have the potential to lead to a loss of soil therefore a moderate negative effect has been identified.
10. Protect and enhance the quality of the water environment	-	The railway is adjacent to several waterbodies and also crosses the Soham Lode Drain and River Great Ouse. There is potential effects during the construction phase on the water environment therefore a minor negative effect has been identified. There may be a reduction in the number of vehicles on the road as a result of improved train capacity which could lead to improvements for the water environment, however this is likely to be negligible.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	-	The railway passes through Flood Zone 1 but also areas with Flood Zone 2 and 3, and areas benefitting from flood defences. Flooding could therefore pose a risk to the railway during both the construction and operational phases. There is also potential that the railway may increase the impermeable area which may also contribute to flooding. A minor negative effect has been identified.
12. Protect and improve local air quality, particularly in the AQMAs	++	Improvements to the capacity of the railway has the potential to result in reduced vehicles journeys which therefore has a positive effect on air quality.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	++	A reduction in the number of vehicle journeys as a result of improved rail capacity also has the potential to reduce GHG emissions.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	0	There is unlikely to be effects on vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards, therefore a neutral impact has been identified.
15. Maximising the use and lifespan of existing transport infrastructure	++	The improvement to the capacity of the section of railway between Ely and Soham will likely maximise the use of the transport infrastructure therefore a moderate positive effect has been identified.

Summary:

The doubling of the railway track between Ely and Soham is likely to increase the capacity of the railway and promote the use of public transport. This has the potential to reduce the number of vehicle journeys which could lead to improvements in air quality and therefore health, a reduction in GHG emissions and also indirect benefits for biodiversity. There is also potential for a reduction in congestion and improved accessibility with benefits to the local economy. The use of the rail network is likely to be maximised due to increased capacity. However, there are also potential negative effects for biodiversity and the water environment during the construction phase.

Table 53: A10/A142 Roundabouts Improvements

Intervention name	A10/A142 Roundabouts Improvements
Further Information	Study has been commissioned to look at increasing the capacity of A10/A142 roundabouts and Lancaster Way roundabout, supporting development at Grovemere and Lancaster Way Business Parks.
Local Authority	East Cambridgeshire
Current status	Pre-feasibility
Location	Ely
Baseline	<ul style="list-style-type: none"> • Agricultural Grade 2 and 3 • Flood Zone 1

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	- / +	The project has the potential to reduce congestion through increased capacity of the roundabouts which could result in air quality improvements and therefore health benefits. However, increased capacity may attract additional vehicles which will reduce air quality. Mixed effects have therefore been identified.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	- / +	There is potential for road safety to be improvement and therefore a reduction in the likelihood of accidents as a result of the capacity improvements at the roundabouts. However, if there are more vehicles as a result of the improvements works, the likelihood of accidents occurring may increase. Mixed effects have therefore been identified.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	Increasing the capacity at the roundabouts, access between the A10 and A142 is likely to be improved as well as access to the Grovemere and Lancaster Way Business Parks.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	Through improving access to the Grovemere and Lancaster Way Business Parks, there is likely to be benefits for the local economy as it may encourage more people to visit the Business Parks or attract businesses to locate there.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	- / ++	There is likely to be improvements to congestion as a result of the capacity improvement works. However, if more vehicles are attracted to the area then there may be an increase in congestion therefore mixed effects have been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / -	There is potential for negative effects on biodiversity and geodiversity if there is land-take required as a result of capacity improvements. However, this will be dependent on the extent of the works. There is unlikely to be any effects on designated sites.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	0	No effects are anticipated for the historic environment as a result of this project.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	? / -	The works may result in changes to the landscape if there is land-take required for the capacity improvements. However, the significance of this will be dependent on the extent and design of the works.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	? / -	The project has the potential for negative effects, however this will be dependent on the extent and design of the works. The project location is adjacent to Grade 2 and 3 agricultural land which may be affected as a result of the works.
10. Protect and enhance the quality of the water environment	? / -	There is potential for negative effects on the water environment as the project is likely to increase the impermeable layer therefore resulting in a potential for contaminated runoff. This will be dependent on mitigation measures included as part of the project.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	As the project is likely to increase the impermeable layer, there is potential for it to contribute to the risk of flooding. The project is located in Flood Zone 1 therefore is a low risk of flooding. Appropriate drainage will need to be considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	- / +	As there is potential for the project to reduce congestion, air quality may be improved as a result. The project also has the potential to result in an increase in vehicle numbers which will therefore result in negative effects for air quality.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	- / +	Given the potential for a reduction in congestion, there is also potential for vehicle GHG emissions to be reduced. However, this is dependent on the number of vehicles therefore a mixed effect has been identified.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project has the potential to effect resilience as it is likely to create additional hardstanding areas which will increase run-off rates. This combined with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	+	The capacity improvements will likely make the road network more efficient and therefore maximise its use.

Summary:

The capacity improvements as part of this project is likely to improve accessibility between the A10 and A142 as well as to the Grovemere and Lancaster Way Business Parks. This also has the potential to benefit the local economy. The project is likely to reduce congestion, however the capacity improvements may attract additional vehicles. As a result, mixed effects have been identified for air quality, GHG emissions, health and the safety of the road network. There is potential for negative effects on biodiversity, the water environment, the landscape, soils, flooding and climate resilience. However, this will be dependent on the extent and the design of the works involved. There is unlikely to be any effects on the historic environment as a result.

Table 55: A1 Buckden Roundabout Capacity and Safety Improvements

Intervention name	A1 Buckden Roundabout Capacity and Safety Improvements
Further Information	Capacity improvements to accommodate increased demand, and proposals to improve safety along this link.
Local Authority	Huntingdonshire
Current status	
Location	A1 meets the B661 at Buckden Roundabout, south-west of Buckden village
Baseline	<ul style="list-style-type: none"> • AQMAs: Huntingdon; St Neots; Brampton; Hemingford to Fenstanton (A14)

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	0	Potential benefits from relieving the existing significant traffic congestion, thus reducing idling and start-up emission, thereby reducing air pollution. However, the benefits for health are likely to be insignificant therefore a neutral effect has been identified.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+++	The project aims to create a safe transport network by improving the roundabout, and therefore major positive effect is expected, and the number of accidents and other incidents are expected to reduce.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+++	As the roundabout is one of the key junctions and is currently suffering from significant traffic congestion, therefore the project will have major positive effects on accessibility, with improved capacity and inter-regional connectivity.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+++	Major positive effect is expected as the project will improve inter-regional connectivity and access to key national and international gateways which will enhance business connectivity, supporting and facilitating trades.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	0 / +	Although the project will relieve congestion, it is not achieved by reducing the need to travel by car, therefore a neutral impact has been identified. However, the project is expected to have an indirect positive effect on the strategy for bus network in the wider region to link market towns and villages (for example, Huntingdon – Brampton – Buckden – St Neots).
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	0	There is unlikely to be effects on biodiversity, therefore a neutral impact has been identified.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	0	Although there are multiple listed buildings and a scheduled monument site nearby, direct impact is not expected if the improvement works are to be confined close to the existing roundabout.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	?	There could be potential minor positive effect on maintaining the distinctiveness of the landscape and townscape character if the improvement works are designed to be of similar appearance to the existing infrastructure. However, if the improvement works to be carried out will be of major scale, with significant changes made, there is then likely to be negative effect.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	0	There is unlikely to be effects on the quality of soils or loss of agricultural / greenfield land, therefore a neutral impact has been identified.
10. Protect and enhance the quality of the water environment	0	There are no waterbodies near the project area, therefore no effects are expected on the water environment.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	0	There is unlikely to be effects on the risk of flooding to transport infrastructure or contribution to it, and the project is not within a Flood Zone, therefore a neutral impact has been identified.
12. Protect and improve local air quality, particularly in the AQMAs	+	Potential minor positive effect is expected on air quality and the four AQMAs the project falls within, largely from the potential reduction in idling and start-up emission from the significant congestion that should be relieved by this project.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+	Potential minor positive effect is expected on minimising GHG emission, largely from the potential reduction in idling and start-up emission from the significant congestion that should be relieved by this project; and reduce Cambridgeshire's contribution to climate change.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	0	There is unlikely to be effects on reducing vulnerability to climate change by minimising the risk of flooding and other climate hazards, therefore a neutral impact has been identified.
15. Maximising the use and lifespan of existing transport infrastructure	++	By improving the roundabout, the use and lifespan of the infrastructure is expected to be maximised, therefore a moderate positive effect has been identified.

Summary:

By improving the A1 Buckden Roundabout which is currently heavily congested, overall accessibility will be improved by smoother traffic flow, supporting local businesses; emissions from idling and engine start-up will also be reduced contributing to the environment and human health. There is unlikely to be negative effects, however, this will depend on the scale and design of the designed works.

Table 56: St Neots Northern Link to Little Paxton

Intervention name	St Neots Northern Link to Little Paxton
Further Information	New highway link between the St Neots Northern Link to Little Paxton.
Local Authority	Huntingdonshire
Current status	Pre-feasibility
Location	St Neots to Little Paxton
Baseline	<ul style="list-style-type: none"> • SSSIs and LNR • Agricultural Land Grade 1 and 2 • Flood Zone 1, 2 and 3 • St Neots AQMA

SEA Objectives	Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	- / +	The new highway may lead to an increase in the number of vehicles in the area which has the potential to reduce air quality and therefore negatively affect the health of the local population. However, by providing an additional link, congestion may be reduced on the wider road network which could result in health benefits through improved air quality.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	- / +	The project has the potential to make the wider road network safer by reducing congestion. However, if there is an increase in vehicle number as a result of the new highway link, the likelihood of accidents will be increased.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	++	The new highway is likely to increase accessibility and reduce journey times between St Neots and Little Paxton therefore opening up opportunities for employment and recreation for residents.
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	The additional link between these two areas may result in benefits for the local economy as both will be more accessible for employment and business opportunities.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	- / +	The new highway link may help to reduce traffic congestion on the wider road network roads. However, it could the new road could become congestion if more vehicles are attracted.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / --	Given the exact location of the new highway link is yet to be determined, effects on biodiversity are uncertain. However, there is potential for negative effects due to the land-take which is likely to be required. There are a number of SSSIs and an LNR around the St Neots and Little Paxton area which could be affected by the new road link.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / -	The historic environment has the potential to be affected as a result of the new highway. However, as the exact location of the road is yet to be determined, effects are uncertain.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	? / -	The project has the potential for negative effects given the new highway is likely to affect the character of the landscape. Effects will be dependent on the location of the highway, project design and mitigation measures.
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	? / -	The project is likely to require land-take for the new highway link. There is agricultural land of Grade 1 and 2 between St Neots and Little Paxton which may lost, however effects are uncertain given the location is yet to be determined.
10. Protect and enhance the quality of the water environment	? / -	There is potential for negative effects on the water environment as the project is likely to increase the impermeable layer therefore resulting in a potential for contaminated runoff. The River Great Ouse also runs through St Neots and Little Paxton, and the River Kym through Little Paxton. However, effects on the water environment will be dependent on mitigation measures included as part of the project.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	As the project is likely to increase the impermeable layer, there is potential for it in to contribute to the risk of flooding. The project is location is unknown, however there are areas of Flood Zone 2 and 3 in St Neots and Little Paxton, particularly around the rivers, and therefore the project could be at risk of flooding. Appropriate drainage will need to be considered as part of the project.
12. Protect and improve local air quality, particularly in the AQMAs	- / +	The project has the potential to reduce congestion on the wider road network which will therefore result in air quality improvements. There is an AQMQ located in St Neots which could be positively affected if traffic is distributed. However, if the new road results in an increase in vehicle numbers, air quality may be reduced.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	- / +	The project may reduce congestion and therefore reduce GHG emissions, however if there is an increase in the number of vehicles there may be an increase in GHG emissions.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project has the potential to effect resilience as it is likely to create additional hardstanding areas which will increase run-off rates. This combined with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects.
15. Maximising the use and lifespan of existing transport infrastructure	- / +	The new highway link is likely to maximise the use of the wider road network by making it more efficient. However, it does require the construction of new infrastructure therefore a mixed effect has been identified.

Summary:

The new highway link will likely increase accessibility between St Neots and Little Paxton. This has the potential to relieve congestion on the wider road network, however it may also lead to an increase in vehicle numbers. As a result, mixed effects have been identified for air quality and GHG emissions, health and the safety of the road network. Given that the location of the new highway is yet to be determined, effects on biodiversity, soils, the historic environment, landscape and townscape, flooding and the water environmental are uncertain. However, there is potential for the project to result in negative effects.

H.5 Projects in Fenland

Table 58: Wisbech Garden Town Feasibility Studies

Intervention name	Wisbech Garden Town Feasibility Studies	
Further Information	<p>Under plans set out in the Wisbech2020 initiative, Fenland District Council and Cambridgeshire County Council are developing the Garden Town to reduce population pressure on Cambridge. In June 2017, the Cambridgeshire and Peterborough Combined Authority provided funding for feasibility studies: Connectivity Study, Flood Modelling, and Rail Study.</p> <p>This Garden Town is seen as having the potential to bring 10,000-12,000 new homes into the area. This would be together with better transport links, more jobs and improved health, education and skills training for local people. It is hoped that the high levels of deprivation in the area will be reversed through housing growth and a better economy. The Garden Town looks to extend Wisbech rather than creating an entirely new city from scratch. This would involve additional building around areas that are already earmarked for development under the Fenland Local Plan. As part of the Garden Town there will be improved rail and road transport links (such as a Wisbech-Cambridge rail link and A47 improvements)</p>	
Local Authority	Fenland	
Current status	Feasibility studies	
Location	Wisbech	
Baseline	<ul style="list-style-type: none"> • Wisbech Garden Town (East) <ul style="list-style-type: none"> – 2 Listed Buildings nearby; potential for negative effects – Flood Zone 2; benefits from Flood Defences – Wisbech AQMA No. 1 SO2 – Agricultural Land Grades 1 and 2 • Wisbech Garden Town (South) <ul style="list-style-type: none"> – River Nene; low potential for negative effects – Flood Zone 2-3 – Agricultural Land Grades 1 and 2 • Wisbech Garden Town (West) <ul style="list-style-type: none"> – 7 Listed Buildings – 1 Schedule Monument nearby; potential for negative effects – River Nene; low potential for negative effects – Flood Zones 2 and 3 – Wisbech AQMA No. 1 SO2 – Agricultural Land Grade 1 	
SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	++	The project aims to reduce the high levels of deprivation in the area through housing growth and a better economy. Improved transport links and access to improved health, education and skills training will have positive effects for health.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	A Rail Feasibility Study and Connectivity Study are part of this project. Wisbech currently suffers from an infrastructure deficit for both road and rail links to the regional and national network and the town and community suffer as a result. By exploring the possibilities of rail and connectivity within Wisbech Garden Town it could help to improve the health and safety of the transport network. This would also have a positive effect by reducing the number of accidents and other incidents currently experienced on the roads. An overall minor positive effect was identified.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+++	A Rail Feasibility Study and Connectivity Study are part of this project. Wisbech currently suffers from an infrastructure deficit for both road and rail links to the regional and national network and the town and community suffer as a result. By exploring the possibilities of rail and connectivity within Wisbech Garden Town and the wider area it could help improve connectivity to key services, employment and recreational areas for the wider community. An overall major positive effect was identified
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	+++	A Rail Feasibility Study and Connectivity Study are part of this project. Wisbech currently suffers from an infrastructure deficit for both road and rail links to the regional and national network and the town and community suffer as a result. By exploring the possibilities of rail and connectivity within Wisbech Garden Town it could help to improve the reliability and efficiency of the town and the transport network in and out. This would have a moderate positive effect on supporting and contributing to local economic growth.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	++	The Rail Feasibility study could have the potential to improve the rail network to allow the reduction in road traffic, especially within Wisbech Garden Town centre. This have a positive impact on the reliability and efficiency of public transport. Overall, a moderate positive effect has been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	-	No designated sites are affected by the feasibility studies, however impacts from improving connectivity and rail such as permanent land-take could have a negative impact on biodiversity. Therefore, an overall minor negative effect is anticipated.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	- / - -	There are listed buildings within Wisbech Garden Town East and West and one schedule monument. A Rail Feasibility Study and Connectivity Study could result in negative effects on the historic environment. Where the railways need to expand could result in negative impacts to buried archaeology. In addition, Wisbech is home to the most concentrated areas in eastern region of historic buildings, streets and spaces, after Cambridge. Conservation and protection of these historic assets is a high priority of Theme 3 of the 2020 Vision. Therefore, any impacts on the historic assets of the town could have a minor to moderate negative effect, dependent on their location.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	- / - -	There are multiple conservation areas with close proximity of the town which if the feasibility studies conclude updated infrastructure is required could negatively impact these conservation areas. Conservation and protection of the historic assets is a high priority of Theme 3 of the 2020 Vision. Therefore, any impacts on the historic assets of the town could have a minor to moderate negative effect, dependent on their location.

SEA Objectives	Project Assessment	Summary of Effects
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	-	Wisbech is located within prime agricultural land. Wisbech Garden Town is located around Grades 1-2 agricultural land. Any infrastructure developments suggested by the feasibility studies could negatively impact upon this prime agricultural land. Therefore, an overall negative effect has been identified.
10. Protect and enhance the quality of the water environment	++	A Flood Modelling feasibility study makes up part of this project. This would have moderate positive effects on the quality of the water environment.
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	+++	A Flood Modelling feasibility study makes up part of this project. This would have moderate positive effects on the transport infrastructure as location/duration and likelihood of flooding could be factored into the rail and connectivity feasibility study to better improve and protect the transport infrastructure for flooding. Currently the town is located within Flood Zones 2 and 3 and the east of the town benefits from flood defences also.
12. Protect and improve local air quality, particularly in the AQMAs	+	There is an AQMA No 1 SO2 within Wisbech Garden Town, by improving the rail and connectivity this could have potential improvements to the air quality of the area by improving the connectivity and reducing the total number of cars within the town centre. Therefore, a minor positive effect has been identified.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+ / ++	Improving the rail network and transport network in general will help reduce any congestion experienced in the town centre, as well as reduce the number of cars on the roads. This will all positively impact the reduction in GHG emissions. Therefore, a minor to moderate positive effect is anticipated.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	+++	The Flood Modelling feasibility study will have a major positive effect with regard to minimising the risk of flooding to infrastructure and development. Conclusions of the study will indicate the best locations for infrastructure and developments to reduce the likelihood of being affected by flooding.
15. Maximising the use and lifespan of existing transport infrastructure	++	These feasibility studies will help to show where the current transport infrastructure is lacking and needs improving. This will help to maximise the use and lifespan of the infrastructure, allowing only required improvements to occur. A moderate positive effect has been identified.

Summary:

This project aims to complete a Connectivity, Flood Modelling and Rail Feasibility Studies. These studies will help to inform where the infrastructure needs updating or redesigning to become more efficient and effective. This project is expected to have positive effects for the flood risk, and overall connectivity of the transport network as well as improving the reliability and efficiency. There could be potential negative impacts associated with biodiversity and habitats, permanent land-take of prime agricultural land and the protection and conservation of heritage assets and conservation areas.

Table 59: March Area Transport Study

Intervention name	March Area Transport Study	
Further Information	A study to identify transportation challenges and opportunities to improve traffic flow and public transport solutions for congestion reduction, improved safety and parking in and around March.	
Local Authority	Fenland	
Current status		
Location	Area of March Town Centre with spoke road networks south (but not as far south as Chatteris) and north (but not as far as Wisbech)	
Baseline	<ul style="list-style-type: none"> • Nene Washes Ramsar, SAC, SPA and SSSI to the north could impact upon • March Conservation Area and potentially Doddington Conservation Area • Approx. 80 listed buildings (mainly within March town centre): Grades I, II and II* • Two Scheduled monuments 'Moated Bishops' Palace at Manor Farm' and 'The March Sconce: a Civil War fieldwork, 250m south west of Eastwood Burial Ground' • Agricultural Land urban and non-agricultural for area of March, surrounding areas are Grade 1, 2 and 3 • Flood Zones 2 and 3 in area surrounding March town centre • River Nene Old Course through March town centre, Twenty Foot River and River Nene 	
SEA Objectives	Project Assessment	Summary of Effects
1. Improve the health of the population and reduce health inequalities between areas and groups	++	The project aims to reduce the high levels of deprivation in the area through congestion reduction and improved safety. Improved transport links and access to improved health, education and skills training will have positive effects for health.
2. Improve the health and safety of the transport network, reducing the number of accidents and other incidents	+	A study to identify transportation challenges and opportunities are part of this project. March currently suffers from an infrastructure deficit traffic flow and public transport for the town centre, and the town and community suffer as a result. By exploring the possibilities of transportation and connectivity within March town centre it could help to improve the health and safety of the transport network. This would also have a positive effect by reducing the number of accidents and other incidents currently experienced on the roads. An overall minor positive effect was identified.
3. Improve accessibility to key services, employment and recreational areas for all areas of the community	+++	Identifying the challenges and opportunities to reduce congestion, improve traffic flow for private and public transport and improve parking in and around the town centre will improve connectivity of the transport links and providing access to key services, employment and recreational areas for the wider community. An overall major positive effect was identified
4. Support and contribute to local economic growth and competitiveness by delivering reliable and efficient transport networks	++	A study to identify transportation challenges and opportunities are part of this project. March currently suffers from an infrastructure deficit for private and public transport for the town centre and the town and community suffer as a result. By exploring the possibilities of improved traffic flow in the town centre could help to improve the reliability and efficiency of the town and the transport network in and out. This would have a moderate positive effect on supporting and contributing to local economic growth.
5. Reduce road traffic and congestion through reducing the need to travel by car and improve and promote sustainable modes of transport including public transport, cycling and walking	+ / ++	This project would help to reduce congestion in the town centre by easing traffic flow. This will make public transport more efficient and reliable also. However, there is the risk that improving the road for all traffic in the town centre, could see an increase in private car users. Therefore, a minor to moderate positive effect has been identified.
6. Protect and enhance biodiversity (including both habitat and species) and geodiversity at all levels	? / -	There is the Nene Washes Ramsar, SAC, SPA and SSSI to the north of the study area which could experience negative impacts. Therefore, an overall minor negative effect is anticipated.
7. Maintain, protect and enhance the historic environment, including archaeology, and the historic landscape character	? / --	There are multiple Grades I, II and II* listed buildings within the town centre; two scheduled monuments within 100m of the scheme and the scheme could impact negatively on the March Conservation Area and potentially Doddington Conservation Area. Therefore, any impacts on the historic assets of the town could have a minor to moderate negative effect, dependent on their location.
8. Maintain, protect and enhance the diversity and distinctiveness of the landscape and townscape character	? / -	Increasing the capacity of the road network in March town centre reduce congestion which may have positive effects on the setting of the landscape. The addition of new infrastructure is required (for example, additional lanes) this will alter the landscape, however, given that there is an existing busy road effects are considered minor. If boundary trees used for screening are removed this may have a bigger effect on the character of the landscape
9. Protect and conserve the quality of soils, minimising the loss of agricultural/greenfield land, and seek to remediate contaminated land	? / -	March is surrounded by Grades 2 and 3 agricultural land. Any infrastructure developments suggested by the project could negatively impact upon this prime agricultural land.
10. Protect and enhance the quality of the water environment	? / -	These enhancements are most likely going to increase the impermeable surface area which could lead to an increased risk of contaminated run-off. It is anticipated that the current road network drainage will require updating which, although minor, could have a positive impact on the quality of the water environment through the implementation of sustainable drainage (for example, SuDS).
11. Reduce the risk of flooding to transport infrastructure and minimise its contribution to flood risk	? / -	The project is surrounded by Flood Zones 2 and 3. Therefore, given the project would increase the impermeable surface area to allow for better traffic flow, improved drainage on the current infrastructure combined with the fact that the project is on the periphery of a Flood Zone, could result in increased flood risk, therefore a minor negative effect has been identified. Appropriate drainage will need to be considered.
12. Protect and improve local air quality, particularly in the AQMAs	+	There is no AQMA for the project area. However, by improving the town centre traffic flow this could have potential improvements to the air quality of the area by improving the connectivity and reducing the total number of cars within the town centre. Therefore, a minor positive effect has been identified.
13. Minimise GHG emissions and reduce Cambridgeshire and Peterborough's contribution to climate change	+ / ++	Improving the road network and public transport network in general will help reduce any congestion experienced in the town centre, as well as reduce the number of cars on the roads. This will all positively impact the reduction in GHG emissions. Therefore, a minor to moderate positive effect is anticipated.
14. Reduce vulnerability to climate change by minimising the risk of flooding and effects from other climate hazards	? / -	The project is located close to an area identified as being at risk from flooding. Therefore, increasing the impermeable surface area through road network improvements could increase the risk of flooding. This combined with severe rainfall events associated with climate change will exacerbate flooding issues. Appropriate measures such as permeable surfacing and SuDS will be required to ensure flood risk is not increased and should be designed to account for future climate change effects

SEA Objectives	Project Assessment	Summary of Effects
15. Maximising the use and lifespan of existing transport infrastructure	++	The study to identify transportation challenges and opportunities experienced in the town centre will help to show where the current transport infrastructure is lacking and needs improving. This will help to maximise the use and lifespan of the infrastructure, allowing only required improvements to occur. A moderate positive effect has been identified.

Summary:

This project aims to complete a study to identify transportation challenges and opportunities to improve traffic flow and public transport solutions for congestion reduction, improved safety and parking in and around March. The congestion reduction, improved safety and traffic flow will have the positive effect of reducing private car use, which also allows for positive impacts on the local air quality, minimising GHG emissions and health of the population, improving the health, safety and longevity of the transport system and reducing road traffic allowing for increased reliability of the public transport network and for greater efficiency and reliability of the transport network as a whole. Minor negatives of this scheme are with regard to flooding, townscape, biodiversity and protection of soils. The only potential moderate negative impact will be on the historic environment.

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24150901

Client contract/project number

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Distribution

Client: TB & EW

Version control/issue number

1.0

Date

06/06/2022

