

Scope of Economic Impact Assessment for Roads Affected by Changes in Climate on Peat and other Soils.

1. Introduction

The Fens, located across parts of Norfolk, Cambridgeshire and Lincolnshire comprises 5000km² hectares of historically marsh and wetland. Now, the Fens has 370,000ha of agricultural land, 400,000 people and 500km of road and rail infrastructure.¹ The Fens hold significant agricultural importance and produces a fifth of the nation's crops and a third of its vegetables and is referred to as the 'breadbasket of Britain'.

Climate change is causing the road infrastructure to be adversely impacted by the more extreme changes in water content of various types of soils. A separate piece of work is being developed to trial different methodologies to maintaining roads affected by these changes to peat and other soils.

This document outlines the scope for an economic assessment for roads affected by peat and other soils for the Combined Authority area.

The objectives are:

- To evaluate the economic implications of maintaining, repairing, and upgrading roads that traverse different soil deposit areas to ensure sustainable and cost-effective transportation infrastructure.
- To evaluate the economic impact of a declining road network effected by changing ground conditions, relative to the maintenance budgets available on the businesses which are reliant on these routes.
- Outline a strategic approach for the Combined Authority area for managing affected roads and approach against a backdrop of climate change. Ensuring close working with the Fen Road trial that is exploring different road maintenance and renewal methodologies.

2. Objectives

- Set out the economic case for investing in fixing effected roads at scale.
- To highlight the overall costs and benefits of investment.
- To articulate the challenges and opportunities in terms of how industries and communities are currently affected.
- Quantify the economic impact of current state of roads affected by peat and other soils to support making the case for large scale investment from central government,
- Set out the work we are doing locally to manage, maintain, and innovate.
- Assess the current condition of roads affected by climate change on peat and other soils.
- Establish the locations of businesses relative to roads affected by peat and other soils and how reliant they are on road infrastructure to succeed.
- Determine the economic impact of peat and other soils on road infrastructure.
- Evaluate the cost-effectiveness of various maintenance and repair strategies relative to the economic cost they have whilst being delivered.
- Provide recommendations for future investment and policy decisions.

¹ [The Fens – preserving the 'breadbasket of Britain' – Creating a better place \(blog.gov.uk\)](https://www.blog.gov.uk/2016/05/11/the-fens-preserving-the-breadbasket-of-britain-creating-a-better-place)

3. Study Area

Identify and map the roads within the jurisdiction of the Combined Authority area

that are affected by peat and other soils. This includes:

- Geographic boundaries of the study.
- Specific road segments known to be on soils impacted by climate change.
- Current annualised costs of maintenance interventions on roads affected by peat and other soils relative to overall budgets.
- Identify key businesses in the area relative roads affected by peat and other soils.
- Identify industry skills gap or shortages that may need addressing before progressing significant renewals programme for roads affected by peat and other soils.

4. Methodology

4.1 Data Collection

- **Road Condition Surveys:** Conduct surveys to assess the current condition of the roads. This includes visual inspections, structural analysis, and subsoil investigations, (Highway Authorities to share the existing data and the scope for the next stage of assessment).
- **Traffic Data:** Gather traffic volume and load data for the affected roads, (combined with the above, and Highway Authorities will provide any existing data currently available).
- **Historical Data:** Review historical maintenance and repair records for trends and recurring issues.

4.2 Economic Analysis

- Evaluate the costs and benefits of different maintenance and repair strategies over their assumed lifecycle.
- Assess the total cost of ownership for different road construction and maintenance options.
- Identify and evaluate the risks associated with peat and other soils on road integrity and the economic implications of these.
- Quantify the current economic contributions to the region's economy that businesses located within areas of roads affected by peat and other soils make, and subject to increased investment their revised contribution.

5. Assessment Criteria

- **Economic Indicators:** Impact to the economy of both the deteriorating asset, and maintenance interventions to the region.
- **Performance Indicators:** Road durability, service life, maintenance frequency.
- **Environmental Impact:** Impact of road maintenance and construction on carbon costs.
- **Safety Impact:** Impact of deteriorating asset on road safety and associated costs of this.

6. Stakeholder Engagement

- **Targeted Consultation:** Engage with relevant stakeholders, including local communities, businesses, business groups, environmental groups, and government agencies.

- **Engage with Neighbouring Counties:** share and learn from other counties’ highways departments, including Lincolnshire County Council whose research in this area is well progressed.
- **Feedback:** Collect and summarise into a table, clearly stating which aspects will be integrated into the assessment and why.

7. Deliverables

- **Interim Reports:** Regular updates on the progress of the assessment.
- **Final Report:** Comprehensive report detailing findings, economic analysis, and recommendations.
- **Presentation:** Presentation of key findings and recommendations to the Combined Authority and stakeholders.
- **Lobbying Document** – non-technical brochure featuring headline ‘ask’ and value of investment.

8. Management

The Combined Authority would procure a consultant to draft the strategy through the ESPO framework to provide the resource to write and undertake the analysis required. It is proposed that market engagement is part of the procurement process to help shape the scope of the strategy. The below table provides an outline of roles and responsibilities for the development of the strategy.

<i>Organisation</i>	<i>Roles and Responsibilities</i>
<i>Combined Authority</i>	Funder and Project Sponsor
<i>Consultancy</i>	Project Manager, organise, facilitate project boards, stakeholder engagement and reporting. Write Strategy document in accordance with the principles of the scope set out above.
<i>Highway Authorities</i>	Essential stakeholders providing data and insight to inform the development of the strategy

The development of the strategy will be managed by regular monthly project board meetings. The frequency of meetings can change to support the project.

The table below sets out the attendees (although others may be identified to be included) and role of the project board

	Attendee	Role of Project Board
Project Boards	Cambridgeshire County Council	Providing oversight, governance, and decision-making authority for the project. Ensuring strategic alignment with organisational objectives. Being accountable for the success or failure of the project. Providing resources and managing risk. Supporting the project manager and ensuring effective communication within the project team and with external stakeholders
	Peterborough City Council	
	Peterborough City Council	
	Combined Authority	
	Consultancy	
	District Councils	