



**Open Report on behalf of Andy Gutherson - Executive Director - Place**

Report to:	<b>Highways and Transport Scrutiny Committee</b>
Date:	<b>24 October 2022</b>
Subject:	<b>Highways Infrastructure Asset Management Strategy</b>

**Summary:**

This item invites the Highways and Transport Scrutiny Committee to consider a paper regarding the Highways Infrastructure Asset Management Strategy.

This decision is due to be considered by the Executive Councillor for Highways, Transport and IT between 31 October to 8 November 2022. The views of the Scrutiny Committee will be reported to the Executive Councillor for Highways, Transport and IT as part of his consideration of this item.

**Actions Required:**

That the Highways and Transport Scrutiny Committee:

- 1) considers the attached report and determines whether the Committee supports the recommendations to the Executive Councillor for Highways, Transport and IT as set out in the report.
- 2) agrees any additional comments to be passed on to the Executive Councillor for Highways, Transport and IT in relation to this item.

**1. Background**

The Executive Councillor is due to consider the Highways Infrastructure Asset Management Strategy between 31 October to 8 November 2022. The full report to the Executive Councillor is attached at Appendix 1 to this report.

**2. Conclusion**

Following consideration of the attached report, the Committee is requested to consider whether it supports the recommendations in the report and whether it wishes to make any additional comments to the Executive Councillor. Comments from the Committee will be reported to the Executive Councillor.

**3. Consultation**

The Committee is being consulted on the proposed decision of the Executive Councillor between 31 October to 8 November 2022.

**4. Appendices**

These are listed below and attached at the back of the report	
Appendix 1	Report to the Executive Councillor for Highways, Transport and IT on Highways Infrastructure Asset Management Strategy.

**5. Background Papers**

No background papers within the meaning of section 100D of the Local Government Act 1972 were used in the preparation of this Report.

This report was written by Jonathan Evans, Jonathan Evans, Head of Highways Client and Contractual Management Services, who can be contacted on [Jonathan.evans@lincolnshire.gov.uk](mailto:Jonathan.evans@lincolnshire.gov.uk).

**Open Report on behalf of Andy Gutherson – Executive Director for Place**

Report to:	<b>Councillor R G Davies, Executive Councillor for Highways, Transport and IT</b>
Date:	<b>31 October – 8 November 2022</b>
Subject:	<b>Highways Infrastructure Asset Management Strategy</b>
Decision Reference:	<b>I026605</b>
Key decision?	<b>Yes</b>

**Summary:**

We are responsible for managing a large highway network with approximately 9000km of carriageway and its associated footways, structures, drainage, street lighting and signals assets and an estimated value of around £11bn. The management of this asset has a significant impact on the County’s economy, residents, businesses and visitors.

The purpose of this Highways Infrastructure Asset Management Strategy is to:

- Formalise strategies for investment in key highway asset groups
- Define affordable service standards
- Improve how the highway assets are managed
- Enable a more effective and efficient highways service to be delivered

This document updates the previous Highways Asset Management Strategy and covers the period from 2022 – 2025.

The strategy aligns with the Council’s vision for Lincolnshire and describes how the highway assets contribute to achieving the Council's objectives. The information provided in the Highways Infrastructure Asset Management Strategy will allow us to make more informed decisions and ensure that the condition of our highway assets meets our requirements for the future.

**Recommendation(s):**

1. That the Executive Councillor approves the attached draft Highways Infrastructure Asset Management Strategy 2022 – 2025 at Appendix A.
2. That the new Highways Infrastructure Asset Management Strategy 2022 – 2025 is published on [www.lincolnshire.gov.uk](http://www.lincolnshire.gov.uk)

<b>Alternatives Considered:</b>	
1.	The Highways Infrastructure Asset Management Strategy is not approved and adopted. We will continue without a defined strategy for the management of our highway assets. This will impact on the level of "Incentive" funding available from the Department for Transport capital maintenance grant.
2.	The Highways Infrastructure Asset Management Strategy 2022 - 2025 attached at Appendix A is approved and adopted with amendments.

**Reasons for Recommendation:**

Approving the proposed Highways Infrastructure Asset Management Strategy 2022 - 2025 will ensure that our policies, in respect of its key assets, align with our longer-term vision for a sound, asset management-based approach to highway maintenance, as defined in the Highways Asset Management Policy.

**1. Background**

In 2006 we developed our first Highways Asset Management Plan which was the initial step towards an asset management-based approach to highways maintenance.

In 2010, the CONFIRM asset management software was implemented, allowing better data capture, asset inventory and the tools to implement the vision of the Highways Asset Management Plan more effectively.

In 2012 the first Highways Asset Management Plan was replaced with the Transport Asset Management Strategy which covered the period for 2012 – 2016 and set out the strategy for the management of the highway asset for that period with a strong focus on preventative maintenance.

In December 2014 the Secretary of State for Transport announced that £6 billion capital funding would be made available up to 2020/21 for local highways maintenance, due to Covid 19, this was extended to 2022.

The scheme rewards councils that demonstrate that they are following an asset management approach and adopting best value and efficient practices to help manage its highway infrastructure.

The amount of incentive funding awarded to a local authority is based on a self-assessment score and is proportionate to other funding streams.

The incentive funding awarded to each local highway authority is based on their score in the questionnaire and will be relative to the amount received through the needs-based funding formula. For 2022/23, only authorities in Band 3 will receive their full share of

the £125 million, whilst authorities in Band 2 will receive 30% of their share, and Band 1 will receive no funding at all.

Year	2022/23
Band 1	0%
Band 2	30%
Band 3	100%

Each year we complete a self-assessment questionnaire comprising of 23 questions relating to the performance of our highways service in 5 key areas. These include:

- asset management policy and strategy
- communications
- performance management and maintenance
- asset data management
- lifecycle planning

The self-assessment Bands are based on the maturity of the authority in key areas, which are described in each question. The principle on which the levels of maturity for each question were determined is described below:

- **Band 1** – Has a basic understanding of key areas and is in the process of taking it forward.
- **Band 2** – Can demonstrate that outputs have been produced that support the implementation of key areas that will lead towards improvement.
- **Band 3** – Can demonstrate that outcomes have been achieved in key areas as part of a continuous improvement process.

A local authority's Band will be based on their score in the self-assessment questionnaire.

- **Band 1** – does not reach Level 2 or Level 3 in at least 15 of the 22 questions.
- **Band 2** – must reach Level 2 or Level 3 in at least 15 of the 22 questions.
- **Band 3** – must reach Level 3 in at least 18 of the 22 questions.

The following 3 questions are at the cornerstones of the asset management assessment:

**1** Asset Management Policy and Strategy

**2** Communications

**5** Lifecycle Planning

Good scores on these 3 questions are essential for authorities aiming for Band 3.

Hence, if we, as an authority score as Level 1 in any or all of questions 1, 2 and 5, we will automatically be placed in Band 1 overall, regardless of our other scores.

Therefore, an up-to-date asset management strategy, that has member support and is published on our website, is a core requirement of the Department for Transport (DfT) incentive funding self-assessment in order to achieve Level 3. Without this, there is a risk that we could lose up to £4.3 million of funding per annum.

Our assessment is that Lincolnshire County Council remains a 'Band 3' performing authority and we continue to achieve 100% of the available incentive fund. We anticipate that the Incentive fund will remain static between 2022 to 2025. The total DfT funding allocation announced in the October 2021 Budget and Spending review pledged the overall funding is to remain for the next 3 years, for Lincolnshire County Council this is £42.06 million per annum. The result of this announcement is that with significant inflation pressure within the roads maintenance sector the spending power reduces unless further funding is announced.

The development of the Highways Infrastructure Asset Management Strategy has been a combined effort between officers and members of the authority with several discussions taking place throughout 2021 and 2022. During the development of the document three alternative strategies were developed and tested with all stakeholders. These were:

- Maintain Steady State for all asset groups except for the Unclassified carriageway network where it is proposed to commence an accelerated improvement programme. Addressing this large area of the network would help reduce the ongoing fault demand, increase public satisfaction, and position us in line with other rural authorities.
- Maintain Steady State for all asset groups.
- Enter a managed decline strategy. Consideration to be given to lowering service levels and / or managing the decline of key asset groups.

Ensuring that the stakeholders of the Strategy are aligned enables a united approach for the next 3 years and continues LCC's methodology to treating the management and maintenance of our highways assets as a multi-year endeavour. Throughout the process, discussion in relation to the importance and consistency of funding was at the forefront so that the service can develop lean and efficient systems of work throughout the service and the wider supply chain.

The discussion also focussed on how the current funding levels would impact highway asset condition, the services we provide, and the level of risk associated with that balance. It illustrated how changes in our budgets would affect future asset condition and if that funding were to change over the next three years how this may impact on service delivery.

The decision from these discussions was to maintain our assets in a steady state position, whilst improving our unclassified network and proactively look to secure funding to

achieve this. The Highways Infrastructure Asset Management Strategy 2022 – 2025 in Appendix A has been tailored to suit this direction of travel.

### **Highways Infrastructure Asset Management Strategy 2022 - 2025**

Our Highways Infrastructure Asset Management Strategy for 2022 – 2025 sets out the key objectives for the Highway Service against our major asset groups and records the level of service that we are aiming to achieve. It provides a means of identifying and prioritising the overall funding needs of our Highways assets.

The overarching document sets out the strategic objectives and identifies how the service will deliver them over the next strategy lifecycle.

The updated Strategy summarises the status of our key highway assets in terms of size and value and provides an accurate record of condition allowing us to anticipate overall funding needs.

The strategy will enable us to:

- Demonstrate the commitment to adopting the principles of highway infrastructure asset management by senior decision makers;
- Document the principles, concepts and approach adopted in delivering highway infrastructure asset management at a high level;
- Link with the Council's policies and strategic objectives and demonstrate the contribution of the highway service in meeting these;
- Set out the desired levels of service from implementing asset management;
- Facilitate communication with stakeholders of the approach adopted to managing highway infrastructure assets;

The Highways Infrastructure Asset Management Strategy has been further developed to meet the specific needs in accordance with the Code of Practice 'Well Managed Highway Infrastructure' (2016) and other industry good practice.

The strategy describes how an asset management framework helps to deliver an efficient and effective approach to a long-term highways service and supports better communication with customers and stakeholders.

The strategy is now more closely tied to the guidance than previously and also reflects the experience gained by the highways service.

## **2. Legal Issues:**

Equality Act 2010

Under section 149 of the Equality Act 2010, the Council must, in the exercise of its functions, have due regard to the need to:

- Eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Act.
- Advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it.
- Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

The relevant protected characteristics are age; disability; gender reassignment; pregnancy and maternity; race; religion or belief; sex; and sexual orientation.

Having due regard to the need to advance equality of opportunity involves having due regard, in particular, to the need to:

- Remove or minimise disadvantages suffered by persons who share a relevant protected characteristic that are connected to that characteristic.
- Take steps to meet the needs of persons who share a relevant protected characteristic that are different from the needs of persons who do not share it.
- Encourage persons who share a relevant protected characteristic to participate in public life or in any other activity in which participation by such persons is disproportionately low.

The steps involved in meeting the needs of disabled persons that are different from the needs of persons who are not disabled include, in particular, steps to take account of disabled persons' disabilities.

Having due regard to the need to foster good relations between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to tackle prejudice, and promote understanding.

Compliance with the duties in section 149 may involve treating some persons more favourably than others.

The duty cannot be delegated and must be discharged by the decision-maker. To discharge the statutory duty the decision-maker must analyse all the relevant material with the specific statutory obligations in mind. If a risk of adverse impact is identified consideration must be given to measures to avoid that impact as part of the decision-making process.

The Equality Act has been taken into account in this instance and an Equality Impact Analysis is attached Appendix B. This review of the Highways Infrastructure Asset Management Strategy is considered to have no impact as the strategy is at a high level of generality and is neutral in its impact on people with a protected characteristic when compared with people who do not share that characteristic.



Joint Strategic Needs Assessment (JSNA and the Joint Health and Wellbeing Strategy (JHWS)

The Council must have regard to the Joint Strategic Needs Assessment (JSNA) and the Joint Health and Wellbeing Strategy (JHWS) in coming to a decision.

The effect of revisions to the Highways Infrastructure Asset Management Strategy on the JSNA and JHWS has been considered and deemed to have no direct impact.

Crime and Disorder

Under section 17 of the Crime and Disorder Act 1998, the Council must exercise its various functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent crime and disorder in its area (including anti-social and other behaviour adversely affecting the local environment), the misuse of drugs, alcohol and other substances in its area and re-offending in its area.

The duties under section 17 of the Crime and Disorder Act 1988 have been considered and it is deemed that the proposed changes to the Highways Infrastructure Asset Management Strategy will have no direct impact.

**3. Conclusion**

The Highways Service has adopted a sound asset management-based approach for the maintenance of its assets and has already achieved the highest "Band 3" rating from the Department for Transport.

This Highways Infrastructure Asset Management Strategy is part of a continuing programme of work to ensure that the network continues to be managed in accordance with the principles of good asset management practice and that our position as a "Band 3" Authority is maintained.

**4. Legal Comments:**

The Council has the power to adopt the Strategy proposed. The decision is consistent with the Policy Framework and within the remit of the Executive Councillor.

**5. Resource Comments:**

Approval of the Highways Infrastructure Asset Management Strategy has no direct resource implications, however it sets out the Council's medium-term ambition for its Asset Management, which is then implemented through the annual Highways Infrastructure Asset Management Plan.

The programme of works that results from the application of the Plan is budgeted for

in the Council's Capital Programme and Revenue Budget which are both reviewed annually as part of the normal budget setting process.

Works of this nature are currently experiencing significant inflationary pressures which are being managed within the overall priorities of the programme and by committing additional resources from reserves and underspends as and when they become available.

## 6. Consultation

### a) Has Local Member Been Consulted?

N/A

### b) Has Executive Councillor Been Consulted?

Yes

### c) Scrutiny Comments

The Report will be considered by the Highways and Transport Scrutiny Committee at its meeting on 24 October 2022 and the comments of the Committee will be reported to the Executive Councillor.

### d) Risks and Impact Analysis

Yes – see the body of the Report

## 7. Appendices

These are listed below and attached at the back of the report	
Appendix A	Highways Infrastructure Asset Management Strategy
Appendix B	Equality Impact Analysis for Highways Infrastructure Asset Management Strategy

## 8. Background Papers

The following background papers as defined in the Local Government Act 1972 were relied upon in the writing of this report.

Document title	Where the document can be viewed
Highways Asset Management Policy	<a href="#">Highways asset management policy – Lincolnshire County Council</a>
Highways Infrastructure Asset Management Plan	<a href="#">Highways infrastructure asset management plan – Lincolnshire County Council</a>

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# Highways Infrastructure Asset Management Strategy

2022 - 2025

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## Foreword

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I am pleased to be able to introduce our Highways Infrastructure Asset Management Strategy for 2022 to 2025

The local highway network is our largest and most valuable publicly owned asset, valued at over £11 billion. The management of this asset has a significant impact on our county's residents, businesses and visitors. It is important to recognise how much we all depend upon our highway network, to sustain our economic and transportation needs and develop a strategy that uses the resources available in an efficient, responsible and sustainable way.

This Highways Infrastructure Asset Management Strategy aligns with our vision for Lincolnshire and describes how our highway assets contribute to the achieving of our objectives. This strategy document sets out our funding requirements to maintain our assets in a defined position and contains budget modelling for future investment scenarios against all key asset groups. This document aims to provide the optimum balance between responsible investment of public money, and the maintenance of the highways asset at an acceptable standard, based on the latest lifecycle planning and whole-life asset management science.

The information provided in this document will allow us to make more informed decisions and ensure that the standard of highway assets meets our desires both now and into the future.

A sound asset management strategy, which balances a data-led approach to maintenance with customer expectations and our aspirations for growth, is the foundation for a sustainable highway network for Lincolnshire. This Highways Infrastructure Asset Management Strategy is the basis of not only maintaining but improving the condition of our highway assets for future generations of residents, businesses and visitors.



Councillor Richard Davies, Executive Councillor for Highways, Transport and I.T.

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# 1. Introduction

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## 1.1 Overview

We have the sixth largest highway network in England with approximately 9000km of carriageway and an estimated value of around £11 billion.

Our network is a significant asset that connects people and places across Lincolnshire, contributing to the wellbeing of residents, thriving communities and enabling people to access work, learning and business opportunities to fulfil their ambitions.

We recognise that the delivery of an efficient highway service cannot be undertaken without effective maintenance of the existing highway network. It is therefore essential that new infrastructure which supports our priority outcomes, should be maintained to the appropriate standard in the future, and that the existing highway infrastructure remains serviceable. We are committed to having the best network condition for the investment available and support an asset management-based approach for the maintenance of the highway network.

Therefore, this strategy sets out how we will maintain the county's highway network to the best possible standard within the available resources, while continuing to pursue all the opportunities we can to secure additional funding for the maintenance and improvement of our highways and transport infrastructure.

The funds we have available, especially revenue funding, are severely constrained and therefore, it is now more important than ever to optimise our resources and to get maximum longevity from the highway asset.

Since the last Highways Asset Management Strategy was published in 2016, there have been significant national events that have had a dramatic influence on local and national policy.

In October 2018, the UK Roads Liaison Group published 'Well-managed Highway Infrastructure: A Code of Practice'. This document promoted the transition from a series of specific guidance and recommendations to an integrated risk-based approach determined by individual Highway Authorities in accordance with their local needs, priorities and affordability. This publication has been key in the development of Lincolnshire's approach to determining levels of service and identifying needs across the network.

Our asset led approach will assist us to deliver a more efficient and effective method to manage the highway infrastructure assets, through longer term planning and ensuring that levels of service are defined and achievable within available budgets. We put our customers at the heart of our strategy to ensure the highway infrastructure is maintained to provide the best service to the people of Lincolnshire.

This Highways Infrastructure Asset Management Strategy replaces the previous Highway Asset Management Strategy 2016-2022 and has been updated to reflect:

- current financial constraints
- local and political aspirations for Lincolnshire
- the changing road network and associated conditions in Lincolnshire
- climate change and the increasing frequency of adverse weather events
- recent national and regional developments in asset management
- changes in local practice since the previous Highways Asset Management Strategy was published

This strategy will be for a three-year period to match the current funding allocations from the Department for Transport (DfT) and align with our electoral cycle which will hold the elections for the next administration in 2025. Our strategy will be amended as a live document and comprehensively reviewed when necessary, or in 2025 for a further four-year period. This will allow us to maximise long term planning and allow our strategy to match the aspirations of the political administration.

## **1.2 Purpose**

In conjunction with the Highways Infrastructure Asset Management Policy, this strategy informs the Highways Infrastructure Asset Management Plan (HIAMP), which sets out how we will apply and operate our asset management principles to ensure that our highway network remains safe, serviceable and sustainable for the benefit of our stakeholders, taking account of available resources.

The objectives of this strategy are to:

- regularly collect and maintain good quality asset condition survey data
- take a long-term view using a systematic, risk-based approach based on defined levels of service for each asset
- consider the whole life costs of maintaining an asset; we will look at what will provide the best return on the money we spend in the long term, rather than ‘worst-first’ short term maintenance treatment
- understand the lifecycle of each asset and use this knowledge to plan when the best time is to do maintenance to keep the asset in a safe and serviceable condition and when it is time to replace it with new
- define the funding approach for the service and the expectation of asset condition;
- Measure and review the highways performance to promote continuous improvement and influence spending on different assets
- develop maintenance programmes using asset condition data as the starting point and utilising local intelligence where appropriate.

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## 2. Asset Management Framework

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### 2.1 Our Strategy – The framework for asset management

National guidance on Highways Infrastructure Asset Management sets out a framework which describes all asset management activities and processes that are necessary to develop, document, implement and continually improve asset management practices.

Our Asset Management Framework demonstrates how asset management links to our broad organisational context and strategic direction of travel, all the way through to the frontline delivery of services.

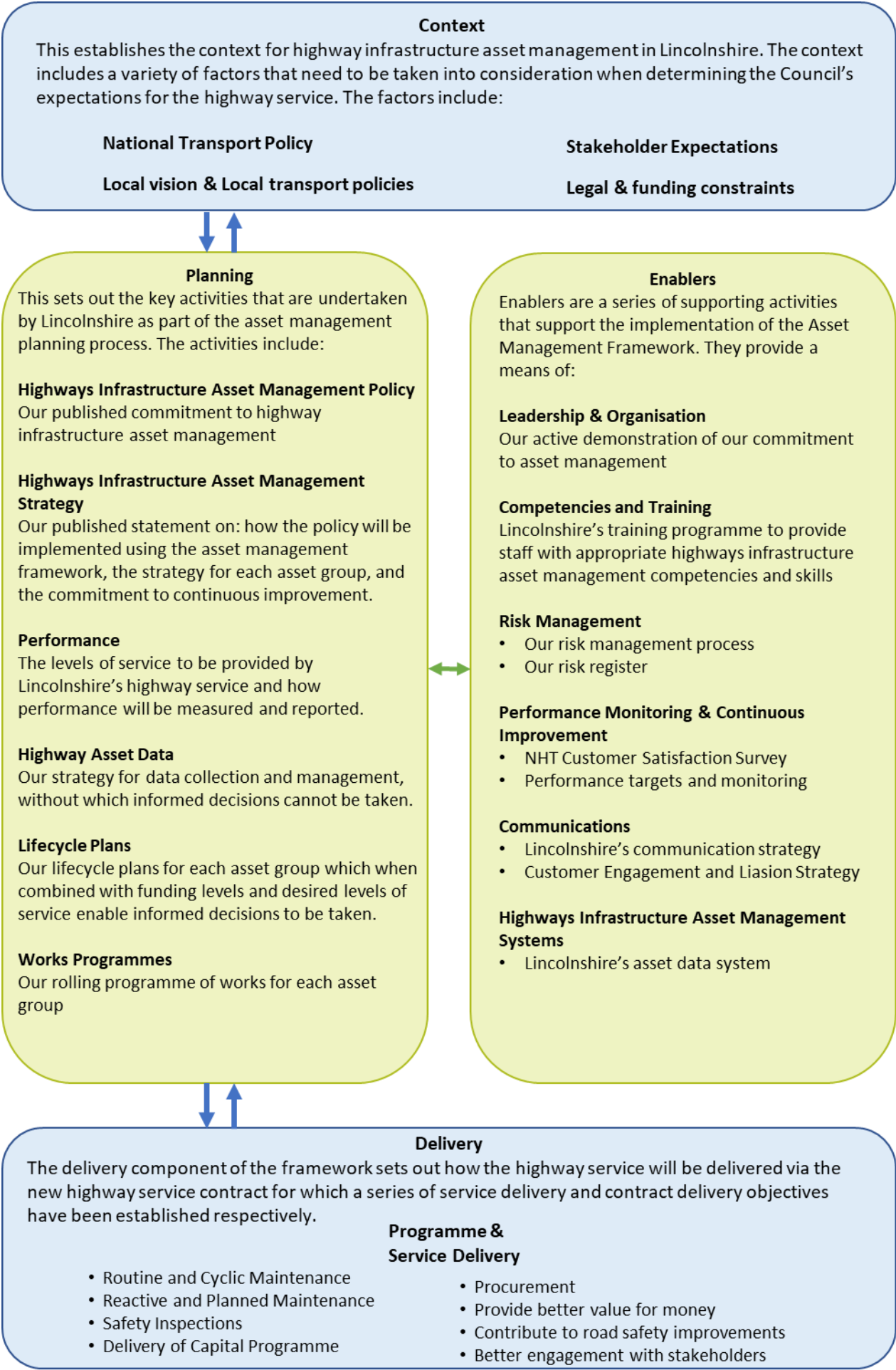
The Framework is presented in four parts:

- **Context** – The context includes a variety of factors that need to be taken into consideration when determining our expectations for our highway service. The factors include national transport policy, local vision and local transport policies, expectations of stakeholders and legal and financial constraints;
- **Asset Management Planning** – Outlines the key principles to be adopted, and the scope of assets covered by this Framework. The Highways Infrastructure Asset Management Strategy sets out strategic planning of the policy and the strategy but is also where the aspirations for the highway assets and the levels of service are defined.

Aligned to the strategy and objectives, keeping with the principles as set out in the Asset Management Policy, this phase sets out the tactical and operational planning activities and where decisions are made which determine whether the strategic objectives are met. The typical outputs delivered through this phase include major asset type lifecycle plans and capital works programmes.

- **Asset Management Enablers** – are the activities which are required to support good asset management practice. Aspects such as Leadership and People, Asset Management Systems, Resources and Supply Chain, Risk and Customer Communication are essential in successful delivery of a professional asset management service.
- **Delivery** – the delivery component of the framework sets out how our highway service will be delivered via the highway maintenance contract for which a series of service delivery and contract delivery outcomes have been established respectively.

How the various documents interact with the different levels of the framework is illustrated below.



## **2.2 Asset Management Planning Practice**

This section defines the asset management planning practices that we use. The application of these practices is essential to the achievement of this strategy.

### **Highways Infrastructure Asset Management Policy**

Sets out the policy and principles that will be adopted for the management of the highway assets and how these align to our long-term vision and purpose.

### **Highways Infrastructure Asset Management Strategy**

Contains asset data information, future demands on the assets, investment strategies, finance and budget detail. It has been developed by Senior Management and managers with specific responsibilities for key assets and reviewed by Council members at our Highways and Transport Scrutiny Committee meetings.

### **Performance Reporting**

A performance report will be compiled annually summarising the condition of each asset group. The report will describe the result of the previous year's investment in terms of meeting the target service standards and key outcomes.

The report will also include long term predictions of levels of defects and condition and will be used to enable us to best allocate the following years budgets and to decide whether any of the asset condition outcomes, funding levels or service standards contained within the asset management plan, need to be revised.

### **Highway Asset Data**

Asset data comprises information on what physical highway infrastructure assets an authority has responsibility for and includes number, location, performance, financial value and public opinion. Effective asset management planning and decision-making relies on this data being available, appropriate, reliable and accurate.

### **Lifecycle Plans**

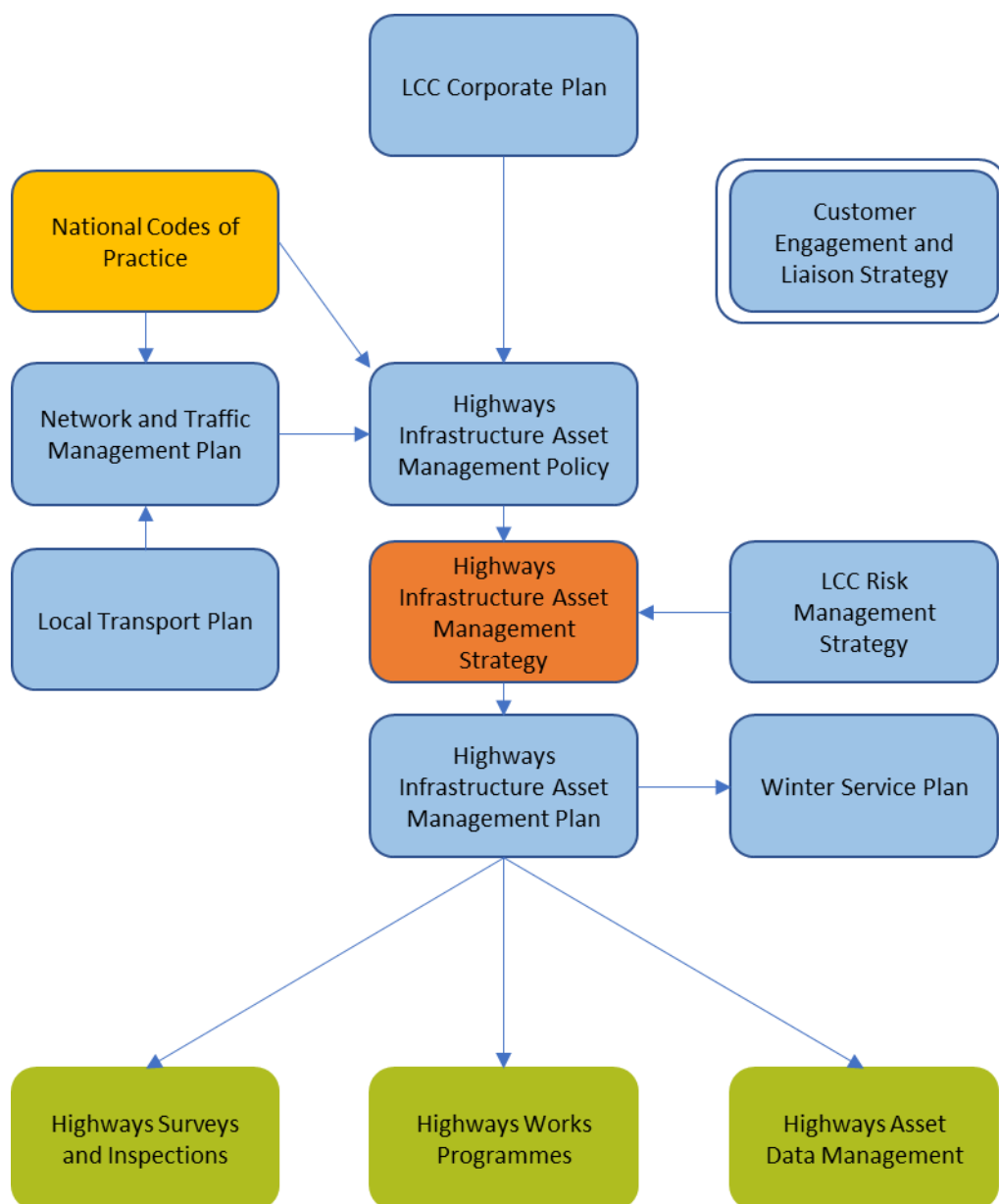
Lifecycle planning comprises the approach to the maintenance of an asset from construction to disposal. It is the prediction of future performance of an asset, or a group of assets, based on investment scenarios and maintenance strategies. The lifecycle plan is the documented output from this process.

## Works Programme

The delivery of the works programme is the tangible outcome of the asset management planning process. The programming and delivery of works should align with the asset management strategy and meet the performance targets.

## Links to Other Plans

We have aligned our strategy to key documentation within the organisation to ensure that not only are we aligned to the corporate vision and strategic goals, but that the planning and enablers required are in place and operating effectively. The chart below identifies these key elements and how they are aligned with one another.





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## 3. Stakeholder Engagement and Communication

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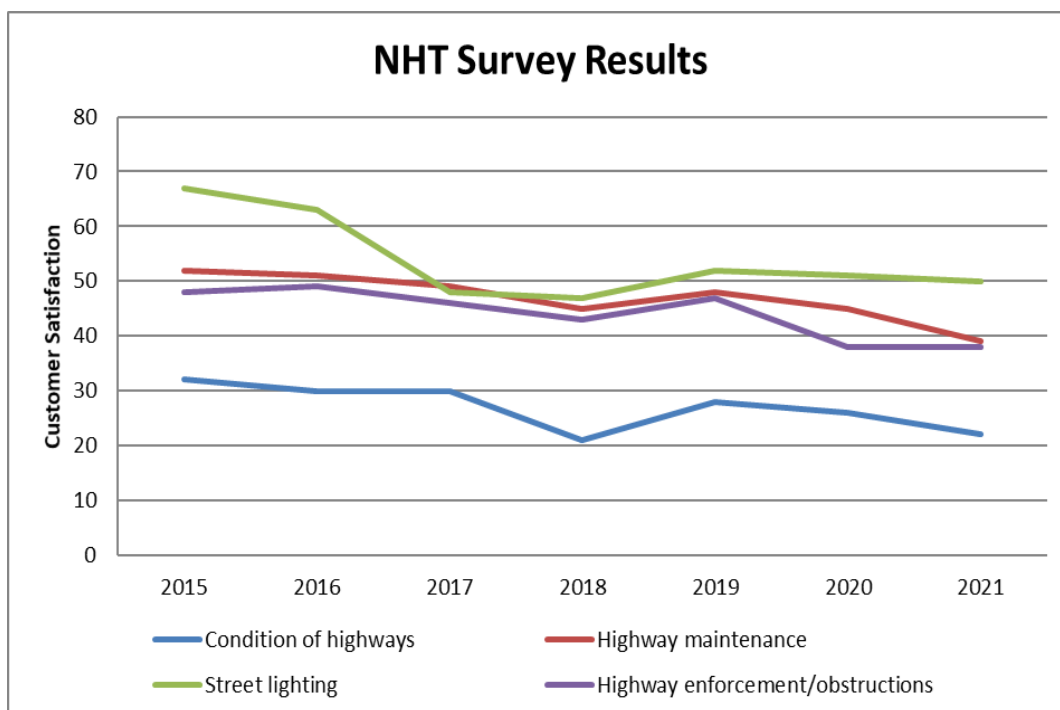
The principal purpose of asset management is to ensure that our network meets the needs and expectations of our stakeholders. To ensure we keep our stakeholders at the heart of all we do we communicate with them on a regular basis and seek feedback at many opportunities.

### 3.1 Customer Consultation

To obtain information on the customer view of the highway service we participate in the National Highway and Transport (NHT) Public Satisfaction Survey which covers all aspects of Highways and Transport service delivery. Details of the results of the surveys are available at [www.nhtsurvey.org](http://www.nhtsurvey.org).

We have participated in the NHT survey since 2008 and this enables us to understand the views and preferences of a sample of residents and to compare these against other similar councils. The survey, undertaken by Ipsos MORI, is based on a sample of residents and is designed to represent a spread of customers' views of the service across the county, geographically by gender and by age.

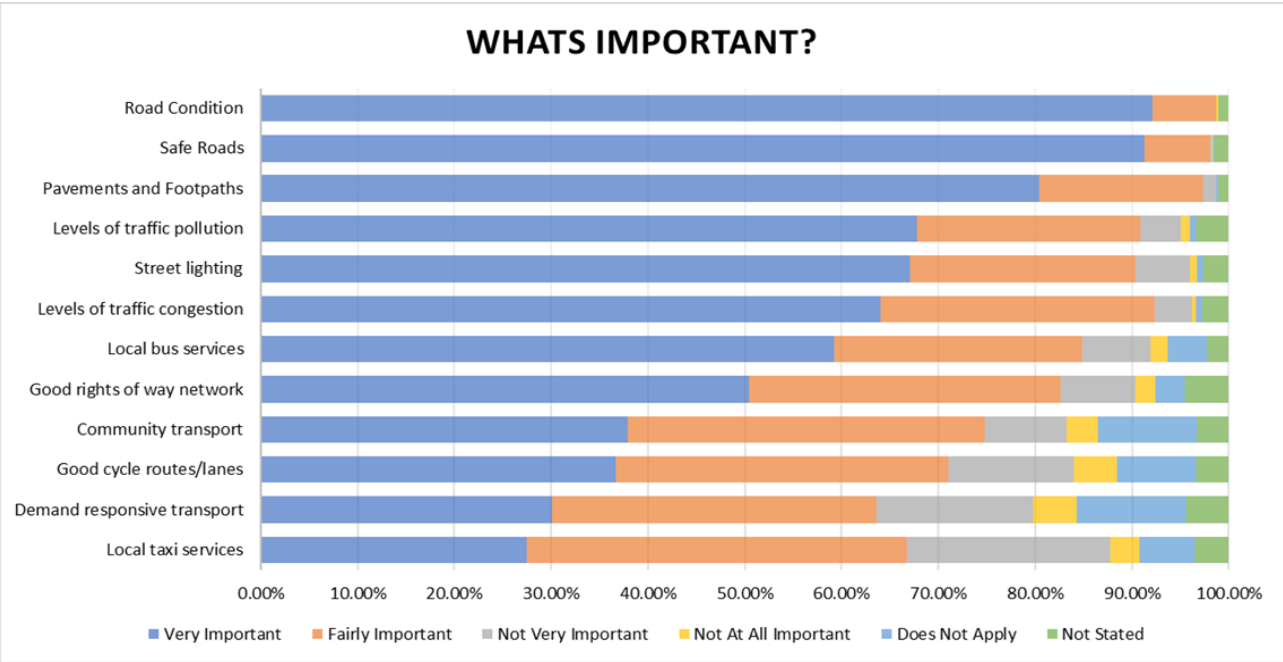
The results shown below from the 2021 survey indicate that there has been a decrease in customer satisfaction levels with the condition of highways and highway maintenance over the past 5 years, although a slight increase was recorded in the 2019 survey. The most significant change has been a decrease in satisfaction to Street Lighting. This is likely to be a consequence of the Street Lighting Transformation Project which includes a programme of part night-time lighting and switch-offs.



The following sets of data looks at how residents rate the importance of highway issues. There has been little change in the public's top issues over the last year. Road condition is still the most important issue with 92% of the public seeing it as very important and a further 6% as fairly important.

Safer roads were second, with 91% of responders saying it is very important and a further 7% as fairly important.

The third-place issue is pavements and footpaths – this means that the top three priorities have remained consistent over the last seven years. There was 80% of the public who saw Pavements as very important and a further 17% who saw it as fairly important.



### 3.2 Stakeholder Engagement

In order to determine future levels of service and to enable informed decision-making based around priorities, it is essential that robust customer engagement be undertaken. Only by engaging with stakeholders will we fully understand their needs and expectations properly. Once undertaken effectively, informed choices and decisions will be made to enable the right forms of highway service to be provided.

In order to find out how our stakeholders view the highway service, we engage and gather feedback from a variety of sources including:

- NHT Survey
- County Views Survey
- close review of any complaints and compliments received
- engagement with Councillors
- Lincolnshire Association of Local Council (LALC) events

- highways specific presence at the Lincolnshire Show
- Customer Service Centre
- direct contact with customers
- FixMyStreet
- social Media
- statutory consultations
- specific survey work for Travel Plans or other specific purposes

This approach allows the stakeholder to feedback in a variety of ways, both formal and informal. We will use their feedback to understand how satisfied they are with the service and establish how we will further develop the service to meet their needs and expectations.

During the period of this strategy, we propose to widen the range of opportunities for our stakeholders to feedback and engage with us by adding feedback surveys at key stages of our fault reporting process and when highway work has been completed. This will enable us to establish how satisfied stakeholders are with the service as it is being delivered and where it affects them the most.

We actively listen to customer feedback and engagement and learn from it to improve the service for our stakeholders.

### **3.3 Communication**

We recognise the importance of two-way communication with staff, elected members, senior officers and stakeholders to ensure that our asset management strategy is properly informed and that stakeholders understand our intentions and priorities.

We will make our policies, plans and programmes available for everyone to see so that our customers know what we are doing. We will ensure that these are easy to find and understand on our website or, upon request, be able to provide these to customers.

We currently utilise a number of different media to communicate our highway service, and we will continue to do so, adopting a more technology-driven focus to provide our residents and road users with up-to-date and accurate information.

We will utilise, where appropriate, local media forms such as press releases, radio, television and print media to provide briefings and information in relation to our highway service. Where possible, we will use multiple channels to engage with the widest range of stakeholders. Increasingly, the use of digital media, principally through use of our website and social media forms such as Twitter and Facebook, to relay information regarding our highway service.

During the period of this strategy, we will widen the range of information we share with our stakeholders. We will use new and emerging technologies to ensure our stakeholders are

provided with information on what they want to know and when they need to know it. We will ensure that all information is easy to find and easy to understand.

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## 4. Service and Contract Delivery

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Our highway service uses a number of contract options in order to fulfil the requirements of our strategy. The majority of services are delivered using long term strategic maintenance contracts with key supply chain partners, which are supplemented with a number of frameworks and alternative delivery routes to ensure operational success and value for money. We retain the role of client and have developed an operating model based around specialist teams delivering specific areas of service. The model is designed to follow the asset management principles set out in this strategy and to ensure that the service delivers in the most effective manner.

Our current highways contract arrangement commenced in 2020 which is managed by the Client and Contractual Management Services team, providing specialist contract, commercial, performance and service development functions. A series of asset management outcomes linked to service outcomes have been created that are directly aligned to the achievement of our Council Plan.

Our highway service is delivered through a highway maintenance and infrastructure contract for which a series of service delivery and contract outcomes have been established respectively. The highways work programmes are established on an asset management basis for delivery through the highways contract. This will ensure the works remain aligned to this asset management strategy and our priority outcomes. It will also support advance planning of key investment decisions for us.

### 4.1 Service Delivery Outcomes

Improve asset condition

- e.g., carriageway and footway condition indicators, drainage performance, safety barrier maintenance and inspections

Improve customer satisfaction

- e.g., annual NHT survey and level of complaints

Reduce third party claims

- e.g., level of claims by value and volume

Provide value for money

- e.g., fixed costs per kilometre of network and schemes within budget

Local engagement and service delivery

- e.g., number of local employees working on the contract and number of local Subject Matter Expert's

Promote economic growth

- e.g., measure of network availability and value of network improvements

## 4.2 Contract Delivery Outcomes

### Safety

- e.g., to ensure a safe network is provided, safely maintained and that safety incidents on the network are reduced

### Sustainability

- e.g., to ensure resources are used efficiently with due consideration to the environment, carbon emissions are reduced and the local economy is promoted and utilised as appropriate

### Customer

- e.g., to ensure we listen to stakeholders, disruption to road users is minimised and stakeholders are satisfied

### Operational Delivery

- e.g., to ensure the right people, business processes and systems are in place, the contract is compliant, managed effectively and the service/schemes are delivered to plan

### Asset

- e.g., to ensure information is available in a timely manner to support effective decision making.

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## 5. Data Management

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We undertake a risk-based approach to asset management through our knowledge of the various elements of the highway. The knowledge of the asset is undertaken by:

- holding and updating all appropriate records
- validating the records
- ensuring the data is transparent for decision makers

In 2022 we published our Data Management Strategy for the Place Directorate which sets out our approach to how we:

- **Identify business need**
  - This is through the appropriate data being collected and an appreciation of the validity of the information and how it is best used
- **Data ownership and accessibility**
  - Each service area has data owners who are responsible for their own data. These data owners are responsible for ensuring that the data information is collated and reviewed annually and ensure that any statutory requirements are adhered to
- **Data collection**
  - We strive to ensure the data collected is accurate, appropriate and collected in such a way that repeatability of collection is achievable
- **Statutory Requirements**
  - Our Place Directorate is committed to ensuring that data is managed correctly and in accordance with the General Data Protection Regulations (GDPR) 2018 and The Freedom of Information Act (FOI) 2000 and the Data Protection Act 2018
- **Inventory Register**
  - We hold our infrastructure inventory and asset data in a single integrated electronic system called Confirm
- **Data Retention**
  - Our Data Retention Policy outlines the duration of time for which a record should be maintained or “retained” before destruction or archive.

The Data Management Strategy will enable all service areas to view and share data information which will be listed and found in one place. Data included in the strategy will be statutory data which is collected, stored and used for the purpose of bidding for funding from the DfT and additional highways and transport data that may be shared and of benefit to other service areas.

## 6. Our Highway Assets and their Condition

### 6.1 Asset Table

A corner stone of asset management is knowing what you have, where it is and what condition it is in. The following tables outline the major highway assets that we manage.

#### Carriageway

Element	Quantity	Data Confidence
A Roads	1,090 km	High
B Roads	782 km	High
C Roads	2,915 km	High
Unclassified Roads	4,080 km	High
Unclassified Roads - Unmetalled	373 km	High
White and Yellow Lines	No Data	Low

#### Footways and Cycleways

Element	Quantity	Data Confidence
Footways (including combined Cycleways)	4,370 km	High
Dedicated Cycleways	7 km	High

#### Verges

Element	Quantity	Data Confidence
Highway Verge	7,456 Ha	High

#### Public Rights of Way (PRoW)

Element	Quantity	Data Confidence
Remote from the carriageway – total length of PRoW	4,033 km	High

#### Structures

Element	Quantity	Data Confidence
Bridges	1516 No.	High
Footbridges	141 No.	High
Culverts >0.6m diameter	2206 No.	High
Retaining walls	148 No.	High
Subways (including submersible pumps)	14 No.	High
Gantries	10 No.	High



## Street Lighting

Element	Quantity	Data Confidence
Lighting columns	67,739 No.	High
Illuminated signs and posts	7,991 No.	High
Illuminated bollards	2,250 No.	High
Feeder pillars	851 No.	High
Vehicle activated signs	303 No.	High
Zebra crossings	276 No.	High
Underground Cables	210 Km	Low

## Traffic Management Systems

Element	Quantity	Data Confidence
Signals at junctions	156 No.	High
Signals at pedestrian crossings	133 No.	High
Signals at pedestrian and cycle crossings	46 No	High
Signals at pedestrian and cycle/ horse crossings	1 No.	High
CCTV cameras (traffic control)	103 No.	High
Traffic Signal UTMC in-station system equipment (SCOOT/UTC, remote monitoring and strategy manager)	1 No.	High
Tidal flow system (Canwick Road Lincoln)	1 No.	High
Traffic signal CCTV matrix	1 No.	High

## Drainage

Element	Quantity	Data Confidence
Gullies	148,292 No.	High
Offlets	28,855 No.	High
Chambers	13,163 No.	Medium
Rodding Eyes	100 No.	Medium
Pipes (exc. Gully laterals)	1,165 km	Low

## Street Furniture

Element	Quantity	Data Confidence
Vehicle safety fences	202,743 m	High
Pedestrian Guard rails	No Data	Low
Non-illuminated signs (warning, regulatory and local direction / info signs)	86,563 No.	Medium

Element	Quantity	Data Confidence
Non-Illuminated bollards	568 No.	High
Trees – Highway owned over 30cm diameter	8,130 No.	Medium
Trees – LCC owned over 30cm diameter	2,170 No.	Medium
Automatic Traffic Counters (carriageway and cycleway)	70 No.	Low
Weather stations (ice prediction equipment managed by Vaisala Ltd.)	12 No.	High
Bus Stops	1,995 No.	Medium
Safety Cameras	39 No.	High
Average Speed Safety Cameras	10 No.	High

## 6.2 Condition Surveys

Condition surveys reveal the state of the network and are used to inform decisions on long-term and short-term maintenance funding. Comparing results from consecutive years allows trends to be analysed in respect of the performance of the asset and ensuring that objectives are being achieved and budgets are being spent effectively.

Condition survey data is used to produce National Indicators and Best Value Performance Indicators (BVPIs) which are an integral part of local government's management framework towards continuous improvement in efficiency and effectiveness of services.

Monitoring the condition of our assets is a fundamental component of asset management. It helps to:

- demonstrate the levels of service that we are delivering
- identify trends in improvement or deterioration
- identify priorities for focusing our resources
- monitor the effect of our treatment strategies
- provide the base data required for lifecycle modelling and the calculation of Depreciated Replacement Costs - DRC (the current cost of replacing an asset with its modern equivalent, less deductions for physical deterioration).

## 6.3 Lifecycle Planning

Life Cycle Planning is a process which underpins asset management, it is a technique for which each type of asset considers:

- rate of deterioration
- desired level of service

- available maintenance options
- cost and lifetime of each maintenance option.

Using this information, a lifecycle plan and optimal treatment strategy will be developed that shows an asset's life from cradle to grave and the likely maintenance cycles undertaken.

Life cycle planning tools have been produced to predict outcomes from investment strategies. These are used to develop strategies that deliver an agreed level of performance. They can also predict the level of service that can be delivered for a particular funding scenario.

Using current condition data, and lifecycle planning tools, we will develop work programmes which make best use of the available funding in meeting long-term objectives, whilst mitigating the risk of failure by allocating funds to where they will be most beneficial. This will then inform future maintenance needs for each asset and indicate future funding requirements.

#### **6.4 Data Collection**

A programme of inventory surveys is developed each year based on priorities and available budgets. Inventory data is only collected and maintained where there are demonstrable benefits when compared to the cost of collecting and maintaining this data.

#### **6.5 Assets Not Covered by This Strategy**

There are some highway related assets that we do not have responsibility for, and the assets not covered in this strategy include:

- car parks (multi-storey and street level managed by either private or District Councils);
- street name plates (owned and managed by the District Councils);
- picnic Sites; and
- District and Parish Council street lighting.

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## 7. Future Demands

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The population of Lincolnshire has increased, on average, by 7.9% in the 10 years from 2011 to 2021 and whilst Lincolnshire will continue to encourage active travel, the population growth, together with new business and housing developments will continue to add new highway assets to manage and maintain.

This section outlines the anticipated demands that will be placed on the asset over the duration of the strategy. These have been considered when formulating the strategy and presenting the risks associated with it.

### 7.1 Asset Growth

New assets are continuing to be added to the network thereby creating an additional need for maintenance and management. This growth in the asset is due to the adoption of additional roads into the network and through improvement activities such as traffic safety schemes and construction of new road links. Over the last 10 years (2011 to 2021) the key highways assets have grown as follows:

Asset Type	Average Growth per Annum (2011 to 2021)	Growth in 2021
Carriageway	11.7 km	19.0 km
Footway	28.9 km	45.2 km
Street Lighting Columns	406 No	242 No.
Structures	8.4 No.	21 No.
Signal Installations	22 No.	1 No.

There has also been a corresponding growth in associated assets such as street furniture, signs and drainage systems which will all require inspection and maintenance.

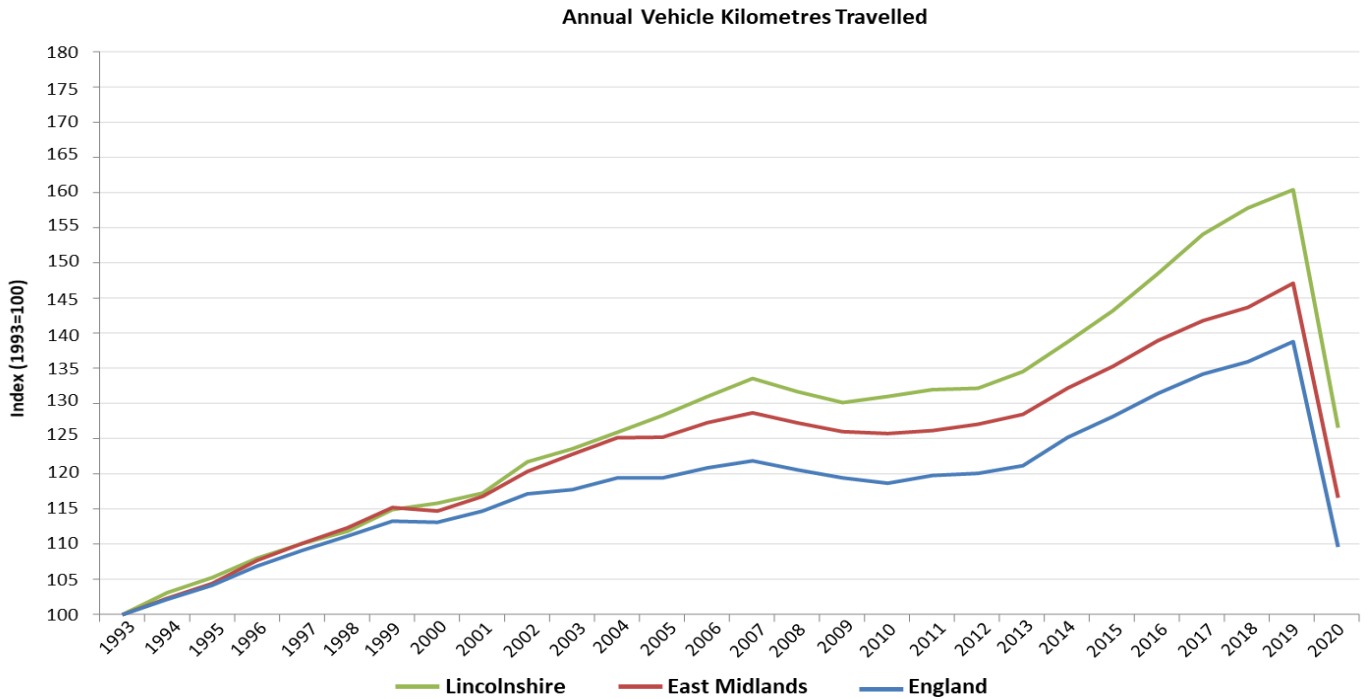
### 7.2 Traffic Growth

Traffic growth is monitored regularly, and details are published in an annual Transport Monitoring Report. The Key elements identified in this report are:

- Over the 24-year period between 1993 and 2018, the number of vehicle kilometres travelled in Lincolnshire rose by 46.4%. This is substantially greater than that for England (26.9%) and for the East Midlands (36.2%) over that same period.
- Traffic levels grew steadily until 2007. However, between 2007 and 2012 levels fell by some 3.4%, reflecting the economic conditions at that time. There was a similar trend nationally and regionally.

- Since 2012, growth in vehicle kilometres travelled in Lincolnshire had resumed again with an increase of some 13.5% between 2012 and 2018. This is well above the corresponding national figure of 8.1%.
- However, the impact of Covid 19 in Lincolnshire saw levels fall to those in 2005

The following graph illustrates the growth in traffic in Lincolnshire in comparison with the East Midlands and National trends:



### 7.3 Traffic Composition

Traffic composition is a major factor affecting the rate of deterioration of our highway infrastructure. In particular, concentrations of heavy good vehicles on roads that were never designed to cope with such loadings can cause accelerated deterioration of carriageway pavements. This has a significant impact in certain areas of the county where there are a number of distribution warehouses with very significant levels of heavy goods vehicle traffic.

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## 8. Environmental Conditions and Climate Change

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### 8.1 Environmental Conditions

Environmental conditions have a significant influence on the condition of the road network. During winter periods, freeze and thaw action can accelerate the deterioration of carriageways and footways, and winter maintenance operations have a direct effect on the resources needed for other maintenance activities. The UK experienced a particularly harsh winter in 2018 with periods of severe weather, but the winters since have been relatively mild.

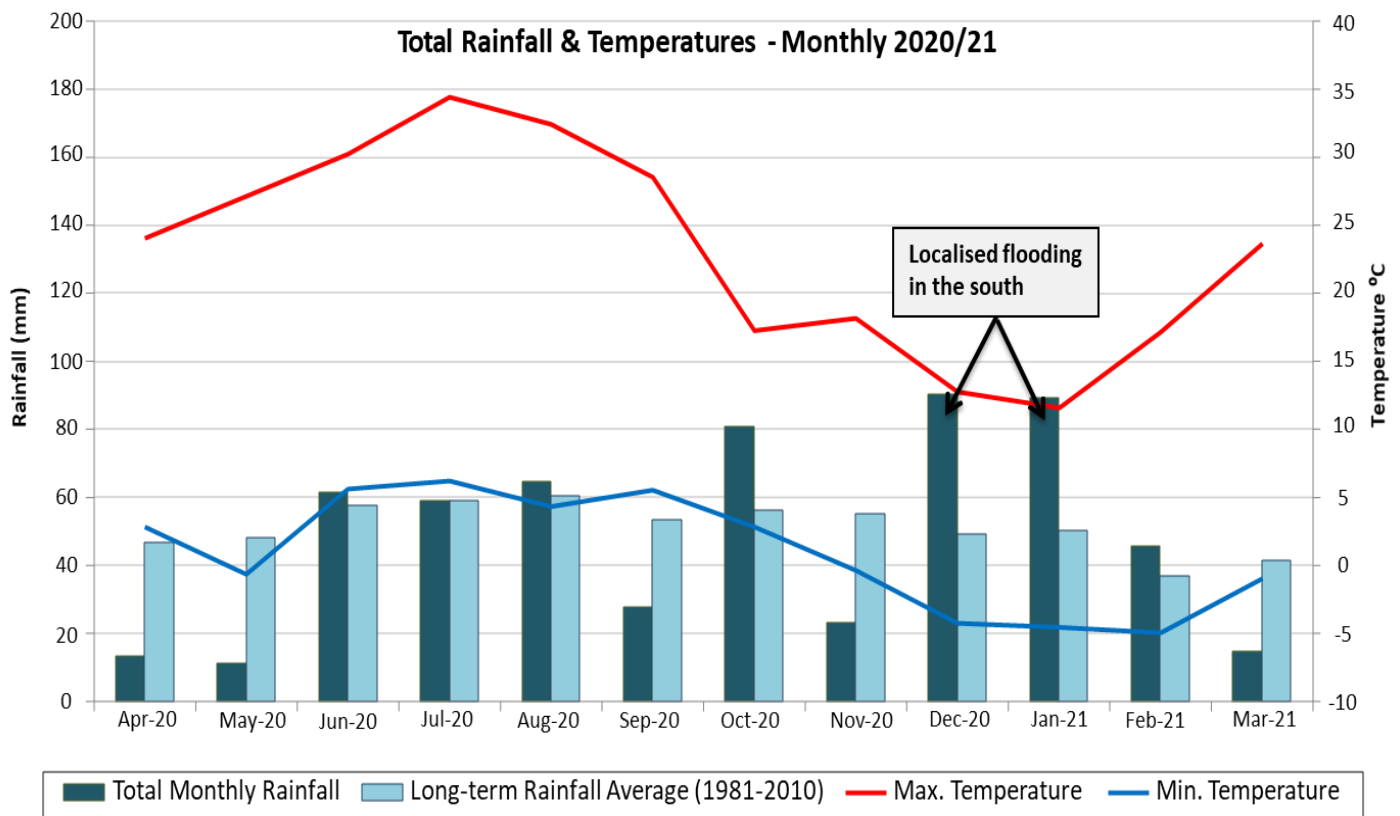
Changes in the climate also have significant implications for the management of highway infrastructure assets.

Within Lincolnshire, roads constructed in the fenland areas are susceptible to severe damage during long periods of dry conditions. This is due to the uneven settlement of roads constructed on moisture susceptible soils which, on drying, shrink significantly and unevenly. This reduces the carrying capacity of the road construction and creates surface alignments that are not consistent with high or medium speed traffic requirements. Work has been undertaken to identify the areas of the county which are susceptible to drought damage during these conditions and identify specific treatments to remediate the roads affected in these areas.

With the ongoing predicted increases in rainfall and river levels due to climate change, older highway drainage systems were not designed to cope with the challenges that they are expected to manage today. As the frequency of extreme storm events increases, it is more likely we will see our drainage assets failing in service and taking time to recover even with emergency interventions. However, highway drainage systems on new developments along with the refurbishment and upgrading of existing highway drainage assets are designed, as far as is reasonably practical, to manage these predicted rainfall increases set out in UKCP18. The requirements for SuDS are clearly detailed in the Development Roads and Sustainable Drainage Design Approach and Development Road and Sustainable Drainage Specification for new developments and SuDS are also used on major highway improvements, helping to reduce the local flood risk but also offering biodiversity, amenity and improvement to water quality.

A more general change in extreme temperatures also offers a challenge for the delivery of the service as the occurrences of these extremes becomes more common. Our service takes part in efforts at a national level to understand the impact and potential remediations of these events and no specific outcome is required from this strategy.

Several severe weather events are expected within the period of this strategy and the contingencies are outlined in the highways service risk register to maintain a resilient network, but the strategy itself is not designed to accommodate these short-term impacts.



## 8.2 Climate Change

We are aware of the effects of climate change on our environment and will ensure that all mitigation measures are considered when dealing with the direct and indirect impact of highway maintenance on the environment and our communities.

This includes:

- consideration of whole life carbon costs
- appraisal of materials, products and treatments for maintenance for environmental impact,
- nature conservation and biodiversity
- risk assessment and mitigations for the effects of extreme weather on highway infrastructure assets (Climate Change Adaptation)

We take into account the following issues when considering our approach to highway maintenance:

- carbon costs and energy reduction
- noise
- materials utilisation

- waste management and recycling
- air quality and pollution control
- nature conservation and biodiversity
- environmental intrusion

Highway maintenance sustainability links to the wider environment and sustainability principles and outcomes of ourselves, our stakeholders and our partner contractors.

Our key focus for responding to climate change includes the following:

- using intelligence and data to improve our ability in planning for and responding to seasonal and adverse weather events
- working with partners to improve air quality and reduce carbon footprint
- increase usage of more environmentally friendly and recycled materials.



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## 9. Financial Summary

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As most of the funding to renew or improve highway assets is received centrally from the DfT, and in order to help us determine our strategy, it is important to consider what is currently happening nationally with highways and the indications for the future.

DfT data indicates there has been a decline in maintenance conditions across the local road network during the last 30 years with minor roads being the most affected. Furthermore, over the last 6 years the RAC reports that motorists believe road conditions are getting worse. A one-time catch-up to remove the national backlog of pothole repairs would take ten years to complete and cost over £12 billion.

### 9.1 Asset Valuation

The following table outlines the value of our highway assets at 31 March 2021 as submitted for the WGA (Whole of Government Accounts) return:

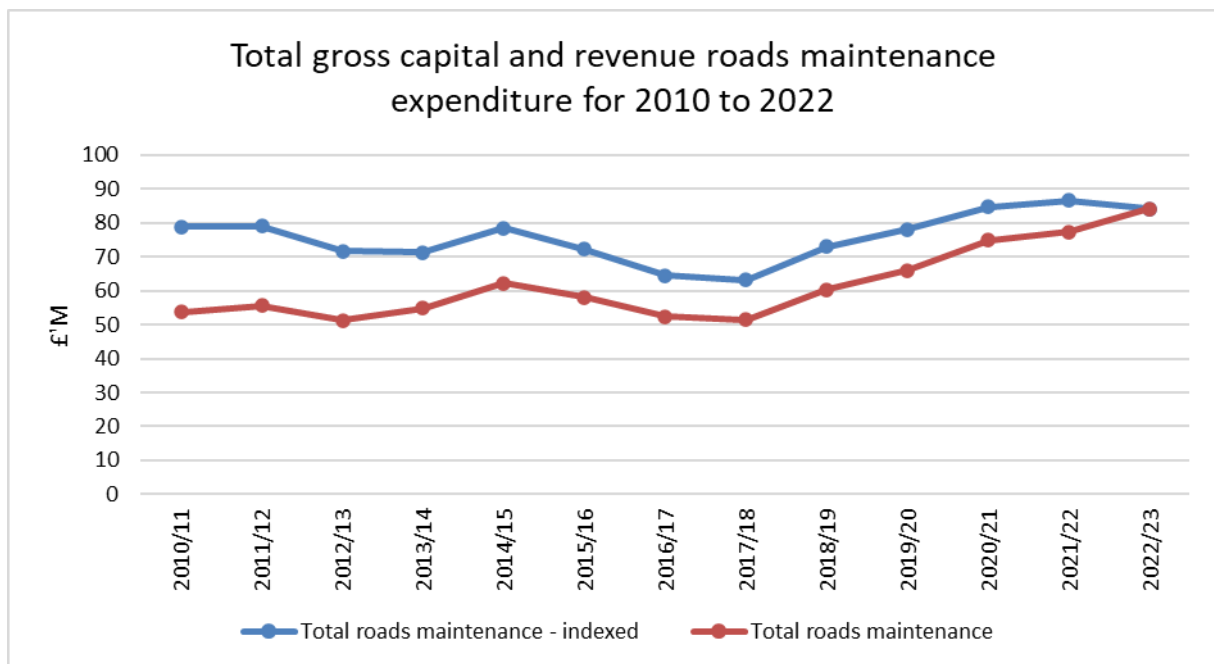
Asset Type	Gross Replacement Cost (GRC)	Depreciated Replacement Cost (DRC)	Annualised Depreciation
Carriageways	£8,726m	£8,328m	£43.3m
Structures	£778m	£524m	£15.5m
Footways	£600m	£542m	£6.9m
Street Lighting	£115m	£44m	£2.9m
Traffic Signals	£21.7m	£11.3m	£0.9m
Drainage	Unknown	Unknown	£4.5m
Street Furniture	£104m	£52m	£3.9m
Trees	£12.2m	£10.5m	£0.3m
<b>Total</b>	<b>£10,356m</b>	<b>£9,506</b>	<b>£78.2m</b>

The Gross Replacement Cost (GRC) represents the cost of replacing the existing asset with a new modern equivalent asset. The Depreciated Replacement Cost (DRC) represents the GRC less the value of the deductions for physical deterioration and obsolescence.

The annualised depreciation figure is the cost of all the treatment required to restore the service life of the asset spread over the lifecycle. This is the theoretical annual cost of maintaining the asset in a “Steady State” condition.

## 9.2 Historical Expenditure

The following table shows details of the historic total roads maintenance budgets and the total roads maintenance budget indexed to provide the relative buying power in terms of 2022/23.



## 9.3 Funding

Funding for our Highway Service is either a capital or a revenue allocation.

### Capital

- reflects investment in an asset and is defined in the Accounting Code of Practice as “expenditure which adds to, and not merely maintains, the value of a fixed asset”
- capital funding is provided by central government

### Revenue

- covers day to day expenditure and income, including works which maintain, rather than increase, the value of a fixed asset
- we provide the revenue funding

In addition, specific grants (revenue and capital) may be made available by both us and Central Government for certain items, for example, excessive deterioration and damage caused by severe winters, drought and flooding throughout the year.

Highway assets generally deteriorate slowly and the effect of a change in the level of funding is not always immediately evident. The strategies in this document have been compiled using long term predictions of condition for all the key highway assets. The periods chosen (typically 20 years plus) are designed to cover a reasonable number of replacement cycles and enable strategies to be developed which consider the whole life cost of maintaining the asset. Using

long term predictions means that decisions about funding levels can also be taken with due consideration of the future maintenance funding liabilities that are being created.

## 9.4 Investment Scenarios

To better inform our position over the lifecycle of this strategy, several investment scenarios have been modelled in line with the approach adopted by the UK Roads Leadership Group (UKRLG) Case for Investing in Highways Maintenance 2021. The Investment scenarios considered are Decline, Managed Decline, Maintain (Steady State), Gradual Improvement and Accelerated Improvement. For each investment scenario, a description in relation to the impact on the asset condition and backlog position is outlined.

At one end of the scale there is a strategy of accelerated improvement while at the other end there is a strategy of decline, with further details of how 3 other investment scenarios in between are likely to play out. The accelerated improvement scenario would see the backlog of road maintenance repair reduce by £17.8 million each year, eliminating all the backlog over 10 years.

Investment Scenario	Funding Need Estimate (1 <sup>st</sup> April 2022)	Description
<b>Accelerated improvement:</b> Accelerate backlog reduction and condition improvement	£99.8m	<b>Backlog</b> – reduce by circa £17.8m per annum, backlog removed in 10 year Evident improvement to all asset condition and network performance
<b>Gradual improvement:</b> Start to address backlog and gradually improve network	£91.1m	<b>Backlog</b> – reduce by circa £9.1m per annum, backlog removed in 20 year Address risks and start to move to a planned/proactive management strategy
<b>Maintain:</b> Investment required to maintain a basic highway service	£82.0m	<b>Backlog</b> – holding at current level and prevents increase Condition generally remains as is (Unclassified roads in poor condition) and substandard drainage
<b>Managed decline:</b> Investment below required level to maintain the current levels of service	£74.3m	<b>Backlog</b> – unsustainable and growing by circa £7.7m per annum Network condition will slowly decline leading to a reactive management strategy
<b>Decline:</b> Investment levels significantly below required level	£67.8m	<b>Backlog</b> – unsustainable and growing by circa £14.2m per annum Network condition will decline, will be evident through bridge restrictions, flooding, more footway and carriageway defects; and a reactive management strategy

The three-year funding allocation identified in the 2022 budget and spending review enables us to plan with a degree of certainty its capital strategy for the next three years. The intention is to continue to invest in each asset group to achieve, as far as is practicable, a steady state

across all our assets whilst improving on the unclassified road network on a gradual improvement scenario.

The table below outlines the funding that will need to be available between 2022 and 2025 in order to achieve a steady state across all assets whilst improving the unclassified network on a gradual improvement scenario. These figures exclude the repair and maintenance of specific major structures.

#### Projected Highway Budgets

Asset Type	2022/23*	2023/24*	2024/25*
Carriageways	£46.1m	£46.1m	£46.1m
Footways	£7.3m	£7.3m	£7.3m
Structures	£4.1m	£4.1m	£4.1m
Street Lighting	£7.0m	£7.5m	£7.5m
Traffic Signals	£2.3m	£2.3m	£2.3m
Drainage	£4.5m	£4.5m	£4.5m
Trees	£0.4m	£0.4m	£0.4m
Other (non-asset service delivery)	£14.6m	£14.6m	£14.6m
<b>Total</b>	<b>£86.3m</b>	<b>£86.8m</b>	<b>£86.8m</b>

\*It should be noted that no allowance has been made for construction inflation from the 1<sup>st</sup> April 2022.

The actual funding levels allocated to the key assets will be reviewed on an annual basis taking into account any specific funding pressures identified.

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## 10. Risk Management

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Managing risks is a critical part of the management of the highway asset. This section describes how these risks are managed. It identifies the risks that could prevent this strategy being delivered with how these risks are to be controlled.

### 10.1 Risk Context

This Highways Infrastructure Asset Management Strategy will align with our Risk Management Strategy which sets out how we manage risks corporately. This risk strategy has been applied to managing our highway assets and the highest rated risks that were considered when compiling this strategy are:

- increasing inflation across the highway service with associated impact on works delivery and buying power
- reduction in funding for capital maintenance works
- the condition of unclassified roads is relatively poor and remains a key focus for the service
- collection of long-term trend data is underway to estimate deterioration in the condition of footways but confidence in the data remains low
- failure of a critical element of a large structure or embankment
- adverse weather events or extreme weather conditions
- reductions in revenue funding impact on the long-term condition of key assets

### 10.2 Risk Identification

Risks are identified from historical experience from both contractor and our staff. They are informed by our internal legal services, risk management and insurance teams.

### 10.3 Risk Assessment / Treatment / Control

Risks are assessed in terms of impact and likelihood using a predefined scoring matrix to determine the overall risk score.

“Control is a response to risk – to contain the risk to an acceptable level and to reduce the likelihood of an unwanted outcome.”

Each risk identified in this strategy does have an associated control measure. If the existing control measure is considered to be inadequate or a control measure does not exist, a mitigating action will be identified to enhance the existing control measure or put a suitable control measure in place. These mitigating actions will be specific tasks allocated to a specified lead officer with a deadline for completion.

## **10.4 Risk Reporting**

Risks will be monitored, and any progress made should be recorded in accordance with the reporting regime in the Corporate Risk Management Strategy. The management team and elected members will be kept informed of the risks and progress in their control and management via regular reports.

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## 11. Carriageways

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### 11.1 Introduction

Carriageways are the most valuable highway asset in Lincolnshire and receive the greatest levels of maintenance expenditure. They were the first asset for which lifecycle plans were developed using current condition data to optimise investment. This has enabled a greater understanding of where to target investment to achieve the desired levels of service.

The condition of the carriageway asset is measured through surveys and inspections and in 2021/22, 26.8% of the unclassified road network was identified as requiring maintenance, compared to just 1.8% of the principal road network and 6.2% of B and C classified roads. During this strategy period our aim is to hold our principal and non-principal road network in steady state condition whilst improving on the condition of the unclassified network.

### 11.2 The Asset

Asset Type	Length (km)	Data Confidence
A Roads	1,090	High
B Roads	782	High
C Roads	2,915	High
Unclassified Roads	4,080	High
Unmetalled "green" lanes	373	High
White and yellow lines	No data	Low

### 11.3 Asset Valuation

The asset has been valued as follows:

	2022
Gross Replacement Cost (GRC)	*£8,726m
Depreciated Replacement Cost (DRC)	£8,328m
Annualised Depreciation (AD)	**£43.3m

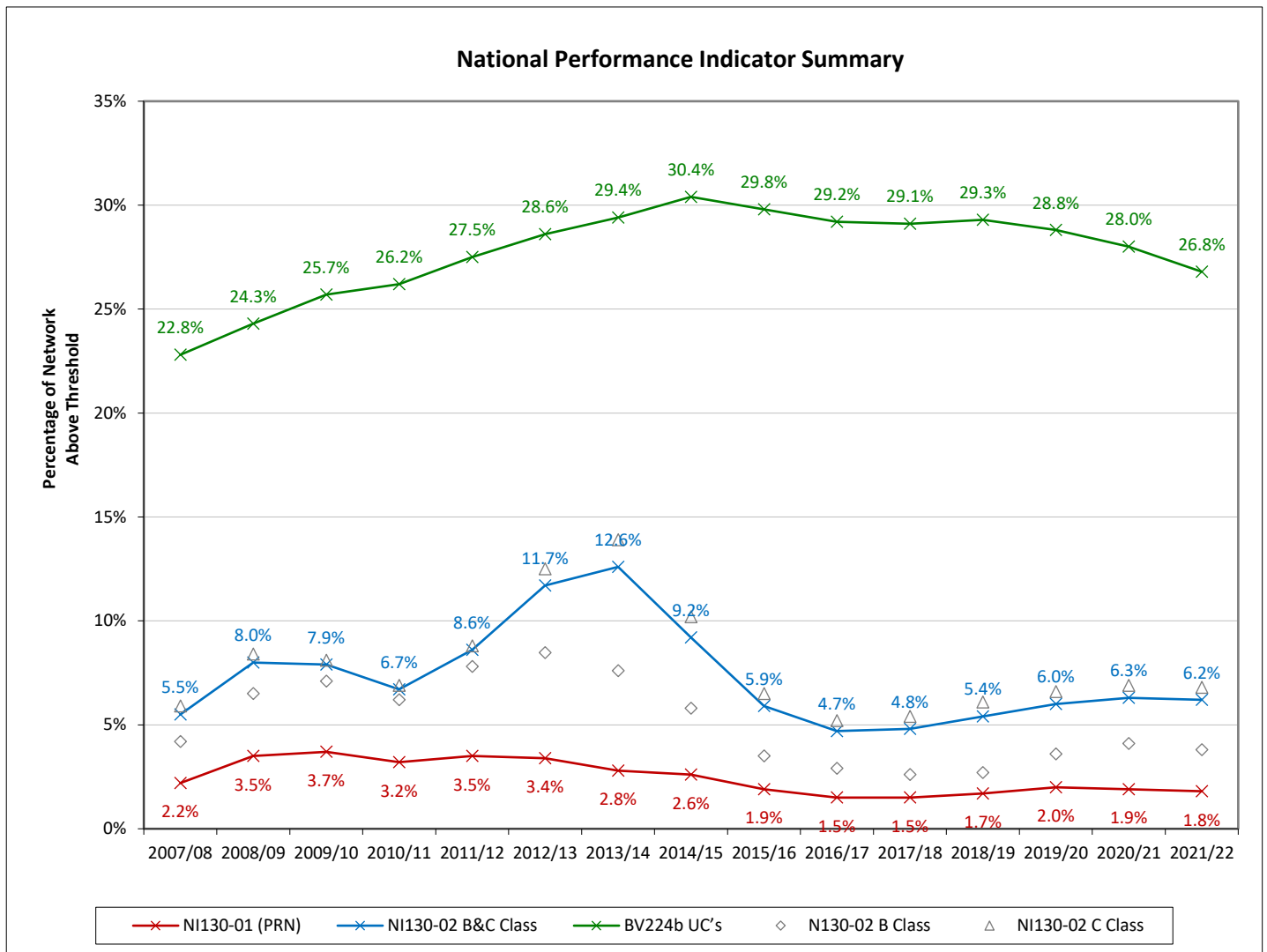
\*It should be noted that no allowance has been made for construction inflation from the 1<sup>st</sup> April 2022

\*\*In theory the annualised depreciation represents the average amount of annual investment required in asset renewals in order to keep the asset in its current state.

### 11.4 Condition

Our condition surveys conform to national standards and are processed using accredited systems. The surveys establish key characteristics of the network including ride quality, rutting, surface texture, and skid resistance. In addition, our team of highway inspectors carry out visual checks to make sure our highway assets are in a safe condition. This includes checking for defects in the road surface that present a safety concern. We also carry out reactive inspections in response to enquiries and raise orders for ad-hoc and emergency works, for example repairing potholes and other surface failures.

In some cases, the structure and use of the carriageway has evolved rather than been designed, consequently the structure is inconsistent and is not always fit for purpose. The unclassified network is at most risk of rapid deterioration.



### 11.5 Current Challenges

Carriageways may suffer progressive deterioration where there is a lack of investment. The main concerns over the future condition of this asset are:

- sufficiency of future budgets to maintain the road network
- roads with less substructure at risk of rapid deterioration
- poor utility reinstatements
- resource to deliver the current programme and develop the forward programme
- impacts of climate change
- minor roads, forming vital link for local communities being heavily used, but with little structure are at risk of rapid deterioration due to water ingress and overloading



- to maintain a steady state condition of the highway carriageway network and improve the unclassified network within a diminishing funding envelope. Maximising the available funding from DfT Incentive Fund through improved asset management and delivery practices across the service
- rising inflation within the construction sector continues to impact service delivery by decreasing the buying power and the amount of work that can be completed on the key asset groups. Based on the latest budget forecast it is anticipated that Highway budgets will not keep up with the pressure of reduced buying power unless further efficiencies can be delivered. If further efficiency gains can't be realised, the asset condition will start to deteriorate.

## 11.6 Investment Requirements

It is estimated that to maintain the carriageway asset in a steady state will require investment of up to £43.3 million per annum in planned maintenance works (reconstruction, resurfacing and surface treatment). This strategy is based on taking the opportunities for making the available funding deliver the best possible value and to obtain the best possible condition for the available budget using a “prevention is cheaper than cure” approach. This will entail the following:

- maintenance schemes will be identified and prioritised based upon information from engineering condition surveys
- aiming to maintain the condition of the network
- a focus on continued investment in preventative maintenance, predominantly surface dressing and targeted structural patching
- a continuing reviewing of reactive maintenance works to determine if greater efficiency can be achieved
- a reduction in service levels relating to the condition of some lightly trafficked roads where maintenance will primarily comprise works to make safe defects requiring urgent attention.
- the standards applied to the repair of priority defects both in terms of what constitutes requiring urgent attention and the response times will be determined using a risk-based approach, details of which can be found in the HIAMP. These response times will continue to be reviewed throughout the life of this document

## 11.7 Projected Expenditure

### Projected Maintenance Budgets

Asset Type	2022/23	2023/24	2024/25
Carriageway A	£13.02m	£13.02m	£13.02m
Carriageway B/C	£19.09m	£19.09m	£19.09m
Carriageway U	£14.07m	£14.07m	£14.07m
<b>Total</b>	<b>£46.12m</b>	<b>£46.12m</b>	<b>£46.12m</b>

## **11.8 Desired Outcome**

- To meet the statutory obligations as the highway authority to maintain the carriageways in a condition that is safe for use and fit for purpose
- maintain the condition of our carriageways with minimum whole life cost
- to deliver a sustainable improvement in the condition of our carriageways
- investment will recognise the differences in condition between various road hierarchies
- maintain their structural integrity and maximise their lifespan, to provide maximum value for money from investment.

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## 12. Footways

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### 12.1 Introduction

Footways and cycleways are critical assets supporting access and mobility for people in Lincolnshire. Securing continuous improvement in the safety and serviceability of footways and cycleways is necessary to encourage alternatives to cars, particularly for journeys in urban areas. Well maintained footways aid social inclusion, particularly improving accessibility for vulnerable people.

### 12.2 The Asset

Asset Type	Length (km)	Data Confidence
Bituminous Footways	4,158	High
Block Paved Footways	69	High
Flagged Footways	87	High
Concrete Footways	56	High
Dedicated Cycleways	7	High

### 12.3 Asset Valuation

The asset has been valued as follows:

	2022
Gross Replacement Cost (GRC)	*£600m
Depreciated Replacement Cost (DRC)	£542m
Annualised Depreciation (AD)	** £6.9m

\*It should be noted that no allowance has been made for construction inflation from the 1<sup>st</sup> April 2022

\*\*In theory the annualised depreciation represents the average amount of annual investment required in asset renewals in order to keep the asset in its current state.

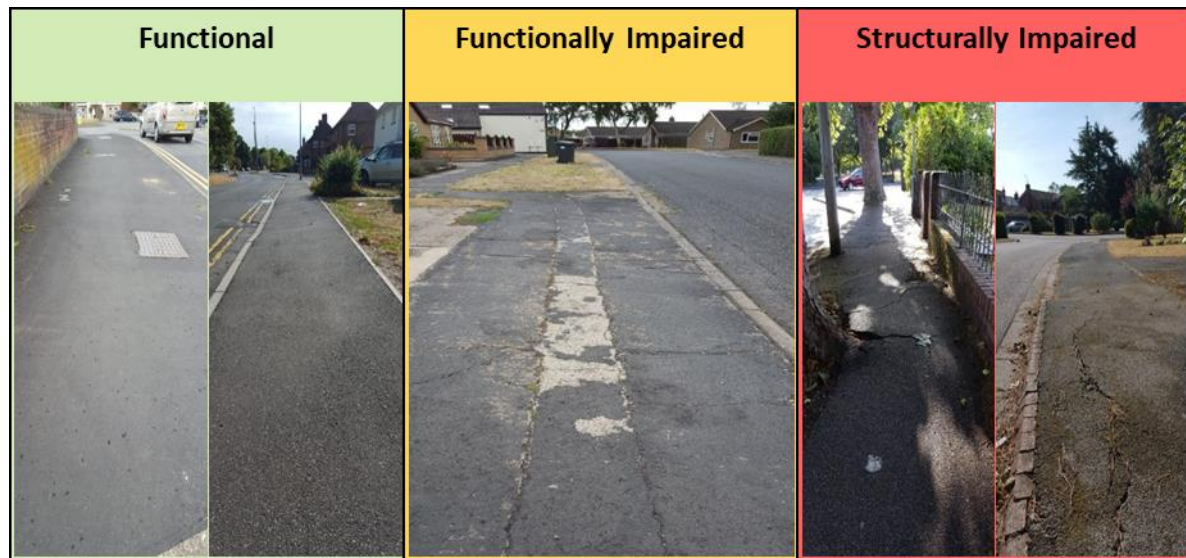
### 12.4 Condition

For footways the condition monitoring is based upon the Footway Network Survey (FNS). This is a simplified survey which allows the footways to be categorised into one of three bands:

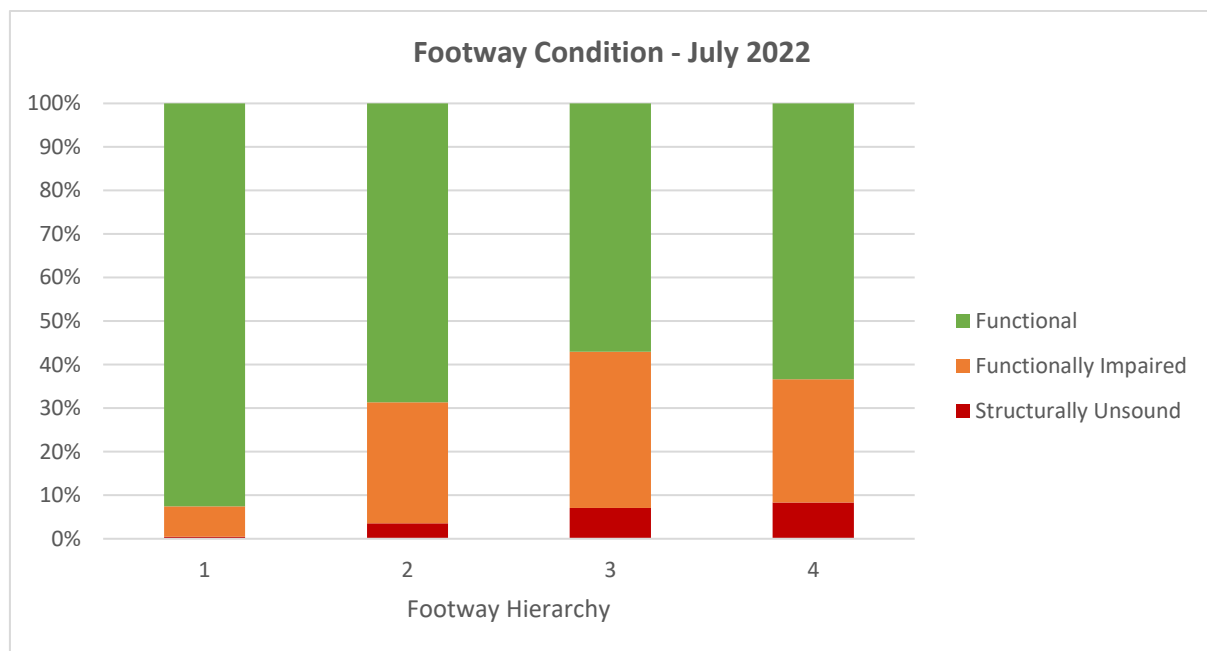
- Functional (Green)
- Functionally Impaired (Amber)
- Structurally Impaired (Red)

Note: 'As New' and 'Aesthetically Impaired' have been replaced by a single category described as 'Functional'.

Examples of each of the condition categories are shown below:



The following graph summarises the results of the FNS surveys on the network:



Footway Network Condition Surveys (FNS) have been undertaken on the whole of the footway (and shared cycleway) network. The current performance indicators show that the footways are generally relatively good condition overall. The maintenance programme will continue its emphasis on preventative treatments (slurry sealing) and selective structural repairs will be carried out to improve pedestrian and cyclist safety, whilst maintaining the overall condition of the footway network.

The asset management strategy for the footway network will involve the following:

- continued monitoring of the condition of the footway network based on FNS surveys

- maintenance schemes will be identified using information from engineering condition surveys.
- aiming to maintain the overall condition of the network in a steady state up to 2025 through a focus on preventative maintenance treatments and selective structural repairs
- flagged footways will be prioritised for improvement as they represent our greatest liability in this asset group.

## 12.5 Current Challenges

There are a variety of footway surfaces within Lincolnshire, each of which requires a different approach to maintenance. The flexible surface footways have a programme of preventative maintenance and renewal. The rigid surfaced are particularly susceptible to damage from vehicle overriding and fall into two broad categories: 1) housing estates where there is an ongoing programme to replace flags with a flexible surfacing and, 2) city or town centres where flags may be used for aesthetic purposes or appropriate to the existing. These are particularly expensive to maintain should they be disturbed by vehicles (Lorries, mechanical sweepers), street works or any process that removes the jointing material between flags (example pressure washing), though some of these may be shared surfaced areas (pedestrianised with delivery vehicle access) they still account for a number of “trips and falls” insurance claims, especially those with the high level of footfall.

Rising inflation within the construction sector continues to impact service delivery by decreasing the buying power and the amount of work that can be completed on the key asset groups. Based on the latest budget forecast it is anticipated that Highway budgets will not keep up with the pressure of reduced buying power unless further efficiencies can be delivered. If further efficiency gains can't be realised, the asset condition will start to deteriorate.

## 12.6 Investment Requirements

For maintenance purposes and the reporting of GRC and DRC it has been assumed that bituminous footways have a lifecycle of 40 years before resurfacing is required with a single surface treatment of slurry seal applied at an appropriate point during the 40-year lifecycle.

Footways comprising modular slabs, block and concrete paving represent a relatively small proportion (7%) of the Lincolnshire Footway Network. The 2021 footway review found during the period 2015-20 that flagged footways carried the greatest risk of personal injury; at 3% of the total footway network making up 40% of footway personal injuries. Investment will be targeted at the reconstruction of flagged hierarchy 3 and 4 footways.

Several full cycles of FNS surveys have now been completed however, in order to develop a model for deterioration or scheme prioritisation multiple surveys will be required over a period of years to determine the rates of deterioration. Investment levels have therefore been determined on an historic basis.

## 12.7 Projected Expenditure

The following table outlines the planned budget for maintaining the condition of the footway network over the next four years. The condition of the network will be monitored, reported and investment levels adjusted accordingly if FNS surveys indicate a significant change in their overall condition.

### Projected Maintenance Budgets

2022/23	2023/24	2024/25
£7.26m	£7.26m	£7.26m

## 12.8 Desired Outcome

- To meet the statutory obligations as the highway authority to maintain the footways in a condition that is safe for use and fit for purpose
- maintain the condition of our footways with minimum whole life cost
- to deliver a sustainable improvement in the condition of our footways
- investment will recognise the differences in condition between various footway types and hierarchies
- maintain their structural integrity and maximise their lifespan, to provide maximum value for money from investment.

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## 13. Structures

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### 13.1 Introduction

The last thirteen years have seen the bridge stock carefully maintained at 'steady state', there has been a very slight gradual decline in overall condition. This is despite savings made in the Structures Revenue budget and Capital budget allocations which in real terms have reduced. It is expected that this situation will continue given adequate funding.

### 13.2 The Asset

Asset Type	Number	Data Confidence
Bridges	1516	High
Subways	14	High
Culverts	2206	High
Highway Footbridges	141	High
Retaining Walls	148	High
Gantries	10	High

### 13.3 Asset Valuation

The asset has been valued as follows:

	2022
Gross Replacement Cost (GRC)	*£778m
Depreciated Replacement Cost (DRC)	**£524m
Annualised Depreciation (AD)	***£15.5m

\*It should be noted that no allowance has been made for construction inflation from the 1<sup>st</sup> April 2022

\*\*Depreciation calculations are worked out using the Structures Asset Valuation and Investment (SAVI) Tool which is an update of the Structures Toolkit developed by the DfT as part of the Whole of Governments Accounting (WGA) initiative. It is evident that the SAVI method of reporting is giving lower values than the 'Structures Toolkit' method of valuation previously used for reporting, SAVI is however, the current CIPFA approved method.

\*\*\*In theory the annualised depreciation represents the average amount of annual investment required in asset renewals in order to keep the asset in its current state.

### 13.4 Condition

The condition of the bridge stock asset is reflected in the following summary:

Year	17/18	18/19	19/20	20/21	21/22
BSCI AVE	92.7	92.7	92.5	92.4	92.4
BSCI CRIT	85.4	86.0	85.6	85.3	85.2

Bridge condition is reported in a variety of ways and the most common are; Bridge Condition Index (BCI) and Bridge Stock Condition Index (BSCI).

The BSCI (AVE) figures indicate that the overall condition of the Lincolnshire Bridge stock is “Good” and the BSCI (CRIT) indicator for the critical elements is also just within the “Good” category.

BCI values relate to particular bridges whereas BSCI refers to the entire bridge stock and gives an overall picture of the condition of the stock. For both of these indices a value of 100 indicates that the structure or stock is in very good condition and as the index reduces towards zero then the condition also reduces.

### **13.5 Current Challenges**

Balancing budget with need and with the specialist resources available both internally and from the term service provider does present a challenge.

Rising inflation within the construction sector continues to impact service delivery by decreasing the buying power and the amount of work that can be completed on the key asset groups. Based on the latest budget forecast it is anticipated that Highway budgets will not keep up with the pressure of reduced buying power unless further efficiencies can be delivered. If further efficiency gains can't be realised, the asset condition will start to deteriorate.

### **13.6 Investment Requirements**

In recent years the revenue budget has been targeted to a planned maintenance regime (with the capability to respond reactively when required), minor works having been identified from the inspection regime and prioritised according to need and risk. The capital budget is targeted towards larger maintenance schemes and reconstructions (where the latter is the only economic option). The overall objective has been to work towards 'steady state' condition and this appears to be reflected in the BSCI scores.

Budgets have effectively remained fixed for the last five years, whilst contractor's costs have increased considerably. The result of this has been to reduce the amount of planned maintenance which can be carried out, and this is reflected in the very slight downturn of BSCI results. It is anticipated this trend will continue and as structural deterioration starts to become more evident BSCI values will decline more sharply in the future should increases to budget in line with contractor's cost increases not be made.

Whilst the theoretical annual depreciation value for the structures stock (£15.5m) is significantly higher than the projected capital budget (£4.1m) this is an average value over the whole life of the structures stock and in practice the condition can be maintained in a steady state with adequate lower levels of funding.



It can be seen that in the next four years of planned maintenance, there are some larger projects which require significant expenditure. In addition, as some of the larger bridges reach the end of their serviceable lifespan a number of much larger projects have been identified which will incur significant costs in the longer term. These structures will continue to be monitored, repaired and reported on until such time as major works become unavoidable. These structures are:

- Cross keys Swing Bridge – Repainting (£1.4m) Currently in progress
- Langrick Bridge – Repainting (£0.7m) Programmed for 2024/25
- Surfleet Bridge – Repainting (£0.5m) Programmed for 2025/26
- Langrick Bridge – Long term future; Potentially rebuild off-line. (£21m)
- Cross Keys Swing Bridge – Major scheme/Replacement (cost not projected)

Cross Keys Swing Bridge has been identified as one of the highest risk assets on the network, its long-term future is under high level consideration.

**13.7 Projected Expenditure**

**Projected Maintenance Budgets**

2022/23	2023/24	2024/25
£4.08m	£4.08m	£4.08m

**13.8 Desired Outcome**

- To meet the statutory obligations as the highway authority to maintain the structures in a condition that is safe for use and fit for purpose
- maintain the condition of our structures with minimum whole life cost
- to deliver a sustainable improvement in the condition of our structures
- maintain their structural integrity and maximise their lifespan, to provide maximum value for money from investment
- to maintain the current condition to prevent further deterioration of our highway structure assets.

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## 14. Street Lighting

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### 14.1 Introduction

Street lighting and the associated illuminated signs and bollard equipment form an essential part of the overall highway asset. This key asset group is approaching a crucial phase of investment at the end of this strategy cycle as the number of assets requiring intervention continues to grow based on column age. This document discusses an overview of their current operation and management.

Calculations are based on the inventory details contained in the Confirm asset management system, and prices are to the nearest pound. Budget split between different road hierarchies / geographical areas has not been undertaken in this summary.

### 14.2 The Asset

Asset Type	Number	Data Confidence
Lighting Columns	67,739	High
Illuminated Signs and Posts	7,991	High
Illuminated Bollards	2,250	High
Belisha Beacons	276	High
Vehicle Activated Signs	303	High
Underground Cables	210 km	Low

### 14.3 Asset Valuation

The asset has been valued as follows:

	2022
Gross Replacement Cost (GRC)*	*£115m
Depreciated Replacement Cost (DRC)	£44m
Annualised Depreciation (AD)**	**£2.9m

\*It should be noted that no allowance has been made for construction inflation from the 1<sup>st</sup> April 2022

\*\*\*In theory the annualised depreciation represents the average amount of annual investment required in asset renewals in order to keep the asset in its current state.

## 14.4 Condition

Over the years the number of lighting assets that we operate has grown significantly, mainly due to the adoption of new development roads etc. Discussion on condition of the different equipment types is as follows:

Lighting Columns - Any new lighting columns currently installed meet specification BS EN 40, with the majority now manufactured from steel and aluminium however the asset inventory is varied with columns manufactured from other materials including stainless steel, cast iron and concrete. The legacy of older lighting columns still operating is a challenge to the current condition and safety of the network. Depending on the material type, the lifespan for lighting columns is predicted at between 40 and 45 years. By comparison, the average equivalent age of the lighting column network is currently calculated at approximately 25 years, indicating that some lighting columns are now significantly older than their predicted lifespan.

Lighting Lanterns - Since 2015 new lanterns installed have been specified with an LED light source, and in particular during the 2016 transformation project and the SOX lantern replacement project since 2018, investment by us and making good use of SALIX has seen approximately 41,000 lanterns changed to LED. This has enabled some of the older lanterns in poor condition to be removed from the network, and with lifespan for LED lanterns predicted at between 25 and 30 years, the new LED lanterns are delivering improved service reliability. There are approximately 7,000 SOX lanterns still to be replaced, and some of the older decorative and heritage lighting lanterns also require attention. But the remaining 19,000 lanterns not currently included in plans for conversion to LED are generally reported as still being in good to average condition.

Illuminated Signs - The illuminated sign asset group is managed almost entirely through the reactive maintenance service. This is generally in line with the approach taken across Highways for maintaining other non-illuminated signs and is also due to the smaller number of assets – approximately 8,000, and the consequence of collapse being generally lower when compared to street lighting assets. The lifespan for an illuminated sign is predicted at 35 years, and the average equivalent age across the illuminated signs network is currently calculated at approximately 28 years. This high average age is a result of the reactive nature of their maintenance, and indicates there are an increasing number of illuminated signs on the network in or approaching poor condition

Illuminated Bollards - The illuminated bollards asset group is managed almost entirely through the reactive maintenance service. The lifespan for an illuminated bollard is predicted at approximately 30 years, and the average equivalent age across the illuminated bollard network is 24.5 years. Along with ageing equipment, their location on centre islands tends to make illuminated bollards more vulnerable to traffic and winter maintenance damage. Where illuminated bollards are beyond repair and agreement is sort from Lincolnshire Road Safety Partnership (LRSP), non-illuminated bollard alternatives are installed and ownership of these transferred from Street Lighting to the local Highways area team.

## 14.5 Current Challenges

Equipment and Supply Chain - Availability and volatility of prices for steel-based products, lighting equipment, and availability of providers for electrical connection works continue to apply acute pressure to both the capital replacement programme and reactive maintenance activity, leading to increased workload and back log of outstanding works.

Energy Price Increases - Increased post-pandemic demand and other factors have seen unprecedented rises in whole-sale energy prices. Thanks to ongoing efforts to reduce electricity usage, street lighting electricity consumption has reduced by approximately 65% compared to a baseline figure from April 2016; and this reduction includes the adoption of a further 1,700 lighting units. But despite efforts to make the street lighting service as sustainable as possible, electricity prices continue to rise annually with further price rises anticipated of between 67% and 80% during 2022. This unprecedented level of increase will inevitably drive an acute pressure on the street lighting energy budget.

Withdrawal of Mercury based lamps - Changes in the Reduction of Hazardous Substance (RoHS) regulations mean fluorescent and other light sources involving mercury are due to be withdrawn from sale by August 2023. This includes lamp types such as MCFE, PLL, PLT etc, and will affect approximately 10,000 street light units and 6,700 illuminated sign and bollard units. Some of the assets affected have lighting lanterns that are still considered to be in good to average condition, and conversion to LED rather than replacement may offer a cost-effective solution. Initial trials with conversion of mercury based lamps to LED are ongoing with good results so far. But further budget pressure is anticipated after the completion of the SOX lantern replacement in April 2024 when attention will be needed to convert the approximately 16,700 assets affected by the withdrawal of mercury based lamps.

Backlog of Routine Maintenance - Contractor resource issues have led to a significant backlog in completion of the cyclic routine maintenance and inspection programme. Sub-contractor resource has been procured through the supply chain to improve productivity in this aspect of service delivery, and plans are in place to amortise the backlog built up in previous years across the remaining 2 years of the 6-year cycle. Progress is monitored and reported on at regular monthly meetings, with the intention of still completing the current cycle of routine maintenance and inspection on time by April 2024.

Column Structural Testing - Lighting columns operated by us naturally deteriorate as they get older, and the risk of collapse continues to increase with age. Annual capital investment attempts to address this and maintain the lighting stock in a steady state condition. But the number of lighting columns exceeding their predicted lifespan is continuing to rise, and although a modest rise in budget is forecast during the term of this HIAMS, significant additional capital investment will be required over the next decade to keep pace with the deteriorating lighting stock. For best value investment, a programme of non-destructive structural testing is required to identify the areas of lighting columns most at risk of collapse and target the capital investment in these areas to minimise the risk. Trials of initial testing are planned during 2022, with a full cycle of non-destructive structural testing scheduled to start by April 2023.

Removal of Permanently Switched Off Lights - Approximately 800 lighting units that have been permanently switched off remain on the network as a legacy from the 2016 Transformation project. These present a significant pressure on staff resource and budget to re-assess and arrange for their removal.

Lighting of New Developments - Recent changes made to street lighting policy allow for a more flexible approach to lighting on new developments. The changes enable new lighting to existing standards to continue; but now also allow for either no lighting or lighting that does not meet Highway standards to be installed. Where lighting is installed that does not meet Highway standards, we will adopt this provided a suitable commuted sum is paid. But this approach marks a change in the approach taken to new development lighting and will inevitably bring new challenges in both design and future maintenance operations.

EV charging / 5G internet attachments - The UK Government ban on the sale of new petrol and diesel powered cars from 2030 means the introduction of on street EV charging points across Lincolnshire will be required. LCC policy to address this requirement is currently being developed and will inevitably involve installing EV charging equipment on street lighting.

Database asset updates - The Confirm asset management system was introduced by us in 2010, and since then regular asset updating means data confidence is high for most of the street lighting inventory data. But recent pressure on staff resource has seen a backlog of both existing assets and new assets requiring updating or adding. Maintaining accurate asset data is an essential part of planning and organising design and maintenance activity, as well as meeting the electricity reporting requirements for Managing Unmetered Energy Street Lighting Inventories (MUESLI).

Inflation - Rising inflation within the construction sector continues to impact service delivery by decreasing the buying power and the amount of work that can be completed on the key asset groups. Based on the latest budget forecast it is anticipated that Highway budgets will not keep up with the pressure of reduced buying power unless further efficiencies can be delivered. If further efficiency gains can't be realised, the asset condition will start to deteriorate.

## **14.6 Investment Requirements**

Over the term of this strategy document, the anticipated investment requirements will include:

The current £750,000 capital replacements budget is forecast to rise to £1 million from financial year 2024/25 onwards, to increase the annual number of column replacements. Further investment rises will be required in future years beyond 2026 and over the next decade to keep pace with the ageing street lighting stock. But a budget rise from April 2024 onwards will coincide the first results expected from the non-destructive testing programme where it is anticipated some urgent lighting column replacements will be required.

The non-destructive structural testing programme will follow the same 6-year inspection cycle currently operated for the cyclic routine maintenance. This additional testing is anticipated to begin from April 2023 and require an additional £100,000 annual budget.

Conversion of street lighting, illuminated signs and bollard assets from mercury based lamps to LED is anticipated to begin from April 2024 after completion of the SOX lantern replacements. Like the SOX lantern replacements, this conversion will be carried out as a part of 6-year cyclic routine maintenance and will require an additional £170,000 annual budget for replacement LED equipment until April 2030.

Removal of permanently switched off street light columns will follow the same 6-year inspection cycle currently operated for the cyclic routine maintenance. The column removals are anticipated to begin from April 2023 and requires an additional £75,000 annual budget until April 2029.

Ongoing volatility in Energy markets will lead to a significant increase in electricity price paid by us. Pressure on the annual street lighting energy budget is expected to exceed £1.5 million from October 2022, with further annual increases in electricity prices anticipated over the term of this strategy.

### 14.7 Projected Expenditure

The projected expenditure shown below includes as a baseline continuance of the current Revenue funding, with the additional investment and budget requirements shown:

Strategy Budget Category	Projected Expenditure FY 2022/2023	Projected Expenditure FY2023/24	Projected Expenditure FY2024/25
Capital Allocation	£0.788m	£0.750m	£1.000m
Revenue Allocation	£4.440m	£4.440m	£4.440m
Recharge Income	£0.280m	£0.280m	£0.280m
Electricity Cost Increases	£1.100m	£1.500m	£1.500m
Sox Lantern Replacements	£0.410m	£0.410m	-
Mercury-based Lamps to LED Conversion	-	-	£0.170m
Column Structural Testing	-	£0.100m	£0.100m
Column Switch Off Removals	-	£0.050m	£0.050m
<b>TOTAL</b>	<b>£7.018m</b>	<b>£7.530m</b>	<b>£7.540m</b>

### 14.8 Desired Outcomes

Along with delivering the day-to-day duties of the street lighting service, by effective use of the additional investment mentioned above the desired outcomes of meeting the current challenges will include:

- successful introduction of policy for flexible lighting requirements on new developments by October 2022
- non-Destructive column testing programme start by April 2023, with 50% completion by April 2026
- switched off column removal programme to start by April 2023, with 50% completion by April 2026
- SOX lantern replacement programme completion and start of mercury based lamp conversion to LED by April 2024
- increased capital budget column replacements, targeted at the anticipated NDT column testing results available from April 2024
- continued Delivery of street lighting design for major Highway schemes, e.g., Hykeham Southern Relief Road etc
- routine maintenance and inspection completion of the current cycle and the start of the next cycle by April 2024
- Electric Vehicle on street charging initial trials completed and ongoing EV on street charge point installation by April 2025.

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## 15. Traffic Signals

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### 15.1 Introduction

The traffic signals asset continues to grow as more signalled controlled junctions and crossings are installed each year; in terms of highway improvements, signals are still seen as a cost effective and simpler solution to safety and capacity issues within the highway. The likes of A153 / A17 slip (Rugby Club) junction, Holdingham Roundabout and the new toucan on the A607 Harlaxton Road in Grantham are recent examples of new installations.

Our asset life cycle of a set of signals has been stretched from 20 years to 25 to lessen the impact on capital replacement costs of maintaining the asset in its current state. Whilst this does help spread the cost over a longer time span, it brings other challenges to the maintenance of the asset, especially around obsolescence of equipment and spare parts.

### 15.2 The Asset

Asset Type	Number	Data Confidence
Signals at Junctions	156	High
Signals at pedestrian crossings (Pelican / Puffin)	133	High
Signals at pedestrian and cycle crossings (Toucan)	46	High
Signals at equestrian crossings	1	High

In addition to the above we manage assets associated with the Urban Traffic Management and Control System, the Tidal Flow system, traffic signal matrix signs, bus priority equipment, fixed and portable CCTV cameras and the Fire Service priority equipment.

### 15.3 Asset Valuation

	2022
Gross Replacement Cost (GRC)*	*£21.7m
Depreciated Replacement Cost (DRC)	£11.3m
Annualised Depreciation (AD)**	**£0.9m

\*It should be noted that no allowance has been made for construction inflation from the 1<sup>st</sup> April 2022

\*\*\*In theory the annualised depreciation represents the average amount of annual investment required in asset renewals in order to keep the asset in its current state.

### 15.4 Condition

The 25-year projected lifespan means that we have an asset that is ever increasing in age with the corresponding drop in overall condition. This has been borne out by the recent requests for additional funding to cover sites in Spalding and North Hykeham, as these sites had reached the end of their operational life and were subject to early warnings from the Term Maintenance Contractor that they were no longer maintainable.



The Periodic Inspection (PI) process carried out annually aims to highlight site condition and pinpoint those sites that are low on serviceability and/or in poor condition. Fault occurrences are also factored into this data so that sites with low operability can be specifically targeted. From this data, the yearly programme is drawn up and presented to the Term Maintenance Contractor.

## **15.5 Current Challenges**

Sites operated by old Siemens T400, P500 and P700 controllers are long obsolete and difficult to source spare parts for. We have therefore targeted these sites through our Capital Asset Refurbishment Programme, but face pressures from other asset areas as to when we can physically utilise the highway space to carry out our works. We have, for example, postponed schemes in the last 3 years in order to tie in with resurfacing works, thus reducing the impact on the availability of the highway on everyday users. Although this is a sensible, joined-up approach to asset management, it has meant that we are pushing our traffic signal assets to the very ends of their operability and beyond. Good examples of this are the Carholme Road / Brayford Way junction in Lincoln and Market Hill crossroads in Holbeach. The next set of challenges will be presented by the Swarco TRX controller which has also been declared obsolete by the manufacturer. There are a very limited number of engineers available within Swarco that can configure this controller type, and so if we should wish to make changes to a site (however minor), we would probably end up having to replace the controller. We currently have 38 TRX controllers active on street (32 junctions and 6 crossings), some located at high profile critical sites such as Lindum Road / Broadgate in Lincoln and Haven Bridge / South Street in Boston.

Although many of our sites have been upgraded to LED standard, there are still 56 sites (30 junctions and 26 crossings) that use old HI halogen bulbs. These are running at 230V/60W, drawing a lot more energy than modern LED technology. These sites also have a much higher lamp failure rate and so it would be beneficial to upgrade the remainder of these older sites to LED ELV standard as quickly as possible. However, significant expenditure would be required to achieve this. The costs of the equipment alone (without labour, cabling, replacement poles etc would on average be £6,000 per crossing and £15,000 per junction).

Rising inflation within the construction sector continues to impact service delivery by decreasing the buying power and the amount of work that can be completed on the key asset groups. Based on the latest budget forecast it is anticipated that Highway budgets will not keep up with the pressure of reduced buying power unless further efficiencies can be delivered. If further efficiency gains can't be realised, the asset condition will start to deteriorate.

## **15.6 Investment Requirements**

To keep the asset at its current state, we target the older, obsolete sites and continue our rolling programme of refurbishments in line with asset age/condition. For the next 5 years, the provisional investment profile is as follows:

- 7 schemes in 2023/24 including Market Hill Crossroads Holbeach (L); Newland Lucy Tower Street Lincoln (S) and Manthorpe Road (Longcliffe Rd) crossing Grantham
- 9 schemes in 2024/25 including A158 Gunby Road / Orby Lane Orby (S); Pinchbeck Road / King's Road Spalding (S) and A15 / Grantham Road Bracebridge Heath (S)
- 7 schemes in 2025/26 including Main Street / Sleaford Road Leadenham (S); High Street (St John Street) crossing Holbeach and A15 South Road (Tennyson Drive) crossing Bourne
- 9 schemes in 2026/27 including Ryhall Road / Drift Road Stamford (S); Lincoln Road / Moor Lane North Hykeham (L) and Queen Street (Union Street) crossing Market Rasen
- 9 schemes in 2027/28 including Sleaford Road / ASDA Boston (L); Richmond Drive / Tesco Skegness (L); Northgate (Market Street) crossing Sleaford

### 15.7 Projected Expenditure

Based on the maintenance spending profile at section 15.6, the envisaged spend for traffic signal refurbishments would be as follows;

#### Projected Maintenance Budgets

2023/24	2024/25	2025/26
£2.3m	£2.4m	£2.0m

### 15.8 Desired Outcome

Refurbishment of the most vulnerable sites within the traffic signal asset base and to help reduce the maintenance liability that these older sites bring to the Term Maintenance Contract.

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## 16. Drainage

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### 16.1 Introduction

Highway drainage is a key asset in maintaining the safety of our highway users during inclement weather, ensuring the continuity of our network during rainfall and its recovery during extreme events as well as being essential in supporting the structural integrity of the highway.

Highway drainage is an asset group where we will be seeking to improve service levels, above those that we currently apply.

Stakeholders have indicated that improving the condition of highway drainage is a priority and better management of flooding is an essential part of improving resilience and sustainability of the network.

We do not have a comprehensive inventory of some of our highway drainage assets but intend to extend this inventory to include them all. Apart from our carriageway gullies and offlets, we have limited data about the condition of our other drainage assets.

In addition, most of our maintenance interventions other than routine gully, offlet and chamber cleansing, swale grass cutting and weed spraying permeable pavements are currently reactive i.e., in response to reports of flooding, blockages, component failure or damage.

### 16.2 The Asset

Asset Type	Number or Length	Data Confidence
Gullies	148,292 No.	High
Offlets	28,855 No.	High
Chambers	13,163 No.	Medium
Rodding Eyes	100 No.	Medium
Pipes (exc Gully laterals)	1,165 km	Low

In addition to the above we also manage other drainage assets including Filter Drains, Grips, Swales and Soakaways.

### 16.3 Asset Valuation

	2022
Gross Replacement Cost (GRC)	Unknown
Depreciated Replacement Cost (DRC)	Unknown
Annualised Depreciation (AD)	*£4.5m

\*In theory the annualised depreciation represents the average amount of annual investment required in asset renewals in order to keep the asset in its current state.

### 16.4 Condition

Assets on existing cyclic cleansing regimes are, on the whole, in good condition. Due to their youth, the majority of SuDs systems should be in a good condition but will require intervention in the near future to maintain their serviceability and longevity. The condition of other drainage assets is uncertain due to lack of data.

### 16.5 Challenges

Challenge 1 - Obtaining the best possible data of our highway drainage assets

We have detailed data for our gullies, chambers and pipework but need to make significant progress in mapping highway SuDs and ancillary assets within our drainage systems that help reduce the risk of flooding and pollution. This includes, but not limited to, flow control devices, storage tanks, flap valves, outfalls and pollution control devices. There is limited data about the condition of many of our assets and this needs to be improved through routine inspection.

Challenge 2 – Developing cyclic maintenance regimes for all our highway drainage assets

Modern drainage systems need to be maintained to ensure they do not increase the risk of flooding and, in the case of SuDs, require different maintenance regimes to that of present, as they use ‘soft engineering’ e.g., swales, grass channels, ponds. The majority of drainage systems we adopt or design have a flow control to limit the outflow of water and storage within the system to hold to reduce the risk of flooding. Without carrying out regular maintenance these systems become overgrown with vegetation, blocked by debris and/or silt up reducing their performance and/or their life expectancy.

Challenge 3 – Sufficient budget

Insufficient budget will not support clearing the maintenance backlog resulting in an increase in the risk of flooding and decrease in highway user safety during inclement weather. Ineffective highway drainage systems also exacerbate the deterioration of the structural condition of the carriageway.

Challenge 4 – Understand how risks associated with climate change impact on highway drainage systems and develop a plan for adaption

Whilst highway drainage assets that have been adopted or improved in the last decade or so have been designed to accommodate the climate change scenarios applicable at the time, our older assets can struggle to cope with more extreme rainfall events resulting in flooding. We need to understand the magnitude of the issue to develop a long-term plan of adaption.

Challenge 5 – Resourcing

As we begin to further develop our understanding of our highway drainage systems there will be a need to resource additional staff to undertake the future forward programmes. Engineers and technicians who specialise, and have the relevant expertise, in drainage engineering are difficult to recruit due to a limited resource pool nationally. Likewise, there will be reliance on specialist contractors to undertake maintenance activities which again has a finite resource pool.

Challenge 6 - Inflation

Rising inflation within the construction sector continues to impact service delivery by decreasing the buying power and the amount of work that can be completed on the key asset groups. Based on the latest budget forecast it is anticipated that Highway budgets will not keep up with the pressure of reduced buying power unless further efficiencies can be delivered. If further efficiency gains can't be realised, the asset condition will start to deteriorate.

## **16.6 Investment Requirements**

Data on all the highway drainage assets we own is limited and current maintenance comprises of the cleansing of gullies, offlets and chambers, swale grass cutting and weed spraying permeable pavements together with essential, but often reactive repairs.

Data gathering exercises have commenced to expand our current highway drainage asset data, this will take place over a number of years. As this data set develops cyclic maintenance regimes can be reviewed to encompass all highway drainage assets that allow our systems to operate effectively, efficiently and offer resilience. This expanded data set will also allow condition monitoring to be undertaken leading to more detailed planning, prioritisation of schemes and interactions, greater efficiency thereby enacting a move from a reactive to preventative maintenance regime.

The increasing number of sustainably focused highway drainage systems needs to lead a transition in the way these systems are maintained. Being comprised of soft engineering features such as swales (shallow grass lined ditches) and structures and devices that store and control the release of storm water, they require a different maintenance approach. Without maintenance these systems can quickly degrade, leading to failure, and can be costly to restore to a serviceable condition.

## 16.7 Projected Expenditure

### Projected Maintenance Budgets

2022/23	2023/24	2024/25
£4.47m	£4.47m	£4.47m

## 16.8 Desired Outcomes

Tackling the challenges listed above will support the provision of a safe, resilient, and reliable drainage system that will reduce the risk of highway flooding caused by our assets, support the longevity of our highways through efficient and effective collection and disposal of highway runoff along with improving the safety of our highway users during inclement weather.

Improving and extending our highway drainage asset data will allow more detailed planning for maintenance regimes of all our assets, support evidence and risk-based decisions in investment, and lead to less reliance on reactive maintenance. As our asset data for highway drainage expands, condition monitoring can be developed allowing greater focus on timely, planned maintenance interventions.

Overall, the desire is to maintain the current condition to prevent further deterioration of our highway drainage assets.

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## 17. Trees

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### 17.1 Introduction

We are the owner of a significant tree stock across the county, much of which is on the highway.

Trees growing in the highway are managed and maintained just like any other element of highway infrastructure that requires maintenance or replacement from time to time.

However, trees are different from other highway assets because they do not remain static. They grow, enlarge over time both above and below ground, they shed leaves and branches and, in some situations, may fall over presenting a hazard to users of the highway. This growth and life cycle which may be perfectly benign in a natural setting is problematic when the tree interacts with the built infrastructure around it in a highway setting. Trees can cause maintenance issues for kerbs, footway paving, carriageway surfaces, adjacent shallowly founded structures (direct damage) and in certain conditions damage building foundations as well.

Despite all these issues trees provide immense environmental benefits: they store carbon, clean the air, collect rainwater, provide shade, reduce noise, protect soil from erosion and harbour wildlife. Furthermore, they provide amenity and functional benefits, e.g., slowing vehicle speeds and providing shelter from wind.

### 17.2 The Asset

Asset Type	Number	Data Confidence
Trees – Highway owned over 30cm diameter	8,130 No.	Medium
Trees – LCC owned over 30cm diameter	2,170 No.	Medium
Trees - Privately owned	7,601 No.	Medium

### 17.3 Asset Valuation

	2022
Gross Replacement Cost (GRC)*	*£12.2m
Depreciated Replacement Cost (DRC)	£10.5m
Annualised Depreciation (AD)**	**£0.3m

\*It should be noted that no allowance has been made for construction inflation from the 1<sup>st</sup> April 2022

\*\*In theory the annualised depreciation represents the average amount of annual investment required in asset renewals in order to keep the asset in its current state.

## 17.4 Current Challenges

An accurate assessment of the highway tree stock in terms of quantity, species and condition and the identification and prioritised management of tree related hazards and problems is currently in the process of being carried out

Using a comprehensive range of values, Quantified Tree Risk Assessment (QTRA) enables the tree assessor to identify and analyse the risk from tree failure.

This assessment has shown that there are 325 trees on or adjacent to the public highway which have defects ranging from old pruning wounds and branch fractures to significant deadwood and ash dieback.

To retain the benefits of trees it is accepted that there will always remain some residual risk in return for the benefit. For members of the public who have a risk imposed on them 'in the wider public interest' HSE would set this limit at 1/10,000 (The HSE 1996). We also need to be able to demonstrate that the risks posed by its trees are 'As Low As Reasonably Practicable' (ALARP), taking into account the benefit provided by the individual tree.

## 17.5 Projected Expenditure

### Projected Maintenance Budgets

2023/24	2024/25	2025/26
£0.41m	£0.41m	£0.41m

## 17.6 Desired Outcomes

We will continue to collect more information on the tree asset to better understand its value and contribution and allow proactive management.



## Equality Impact Analysis to enable informed decisions

### The purpose of this document is to:-

- I. help decision makers fulfil their duties under the Equality Act 2010 and
- II. for you to evidence the positive and adverse impacts of the proposed change on people with protected characteristics and ways to mitigate or eliminate any adverse impacts.

### Using this form

This form must be updated and reviewed as your evidence on a proposal for a project/service change/policy/commissioning of a service or decommissioning of a service evolves taking into account any consultation feedback, significant changes to the proposals and data to support impacts of proposed changes. The key findings of the most up to date version of the Equality Impact Analysis must be explained in the report to the decision maker and the Equality Impact Analysis must be attached to the decision making report.

**\*\*Please make sure you read the information below so that you understand what is required under the Equality Act 2010\*\***

### Equality Act 2010

The Equality Act 2010 applies to both our workforce and our customers. Under the Equality Act 2010, decision makers are under a personal duty, to have due (that is proportionate) regard to the need to protect and promote the interests of persons with protected characteristics.

### Protected characteristics

The protected characteristics under the Act are: age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex; sexual orientation.

### Section 149 of the Equality Act 2010

Section 149 requires a public authority to have due regard to the need to:

- Eliminate discrimination, harassment, victimisation, and any other conduct that is prohibited by/or under the Act
- Advance equality of opportunity between persons who share relevant protected characteristics and persons who do not share those characteristics
- Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

The purpose of Section 149 is to get decision makers to consider the impact their decisions may or will have on those with protected characteristics and by evidencing the impacts on people with protected characteristics decision makers should be able to demonstrate 'due regard'.

### **Decision makers duty under the Act**

Having had careful regard to the Equality Impact Analysis, and also the consultation responses, decision makers are under a personal duty to have due regard to the need to protect and promote the interests of persons with protected characteristics (see above) and to:-

- (i) consider and analyse how the decision is likely to affect those with protected characteristics, in practical terms,
- (ii) remove any unlawful discrimination, harassment, victimisation and other prohibited conduct,
- (iii) consider whether practical steps should be taken to mitigate or avoid any adverse consequences that the decision is likely to have, for persons with protected characteristics and, indeed, to consider whether the decision should not be taken at all, in the interests of persons with protected characteristics,
- (iv) consider whether steps should be taken to advance equality, foster good relations and generally promote the interests of persons with protected characteristics, either by varying the recommended decision or by taking some other decision.

## **Conducting an Impact Analysis**

The Equality Impact Analysis is a process to identify the impact or likely impact a project, proposed service change, commissioning, decommissioning or policy will have on people with protected characteristics listed above. It should be considered at the beginning of the decision making process.

### **The Lead Officer responsibility**

This is the person writing the report for the decision maker. It is the responsibility of the Lead Officer to make sure that the Equality Impact Analysis is robust and proportionate to the decision being taken.

### **Summary of findings**

You must provide a clear and concise summary of the key findings of this Equality Impact Analysis in the decision making report and attach this Equality Impact Analysis to the report.

## Impact – definition

An impact is an intentional or unintentional lasting consequence or significant change to people's lives brought about by an action or series of actions.

### How much detail to include?

The Equality Impact Analysis should be proportionate to the impact of proposed change. In deciding this asking simple questions “Who might be affected by this decision?” “Which protected characteristics might be affected?” and “How might they be affected?” will help you consider the extent to which you already have evidence, information and data, and where there are gaps that you will need to explore. Ensure the source and date of any existing data is referenced.

You must consider both obvious and any less obvious impacts. Engaging with people with the protected characteristics will help you to identify less obvious impacts as these groups share their perspectives with you.

A given proposal may have a positive impact on one or more protected characteristics and have an adverse impact on others. You must capture these differences in this form to help decision makers to arrive at a view as to where the balance of advantage or disadvantage lies. If an adverse impact is unavoidable then it must be clearly justified and recorded as such, with an explanation as to why no steps can be taken to avoid the impact. Consequences must be included.

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**Proposals for more than one option** If more than one option is being proposed you must ensure that the Equality Impact Analysis covers all options. Depending on the circumstances, it may be more appropriate to complete an Equality Impact Analysis for each option.

**The information you provide in this form must be sufficient to allow the decision maker to fulfil their role as above. You must include the latest version of the Equality Impact Analysis with the report to the decision maker. Please be aware that the information in this form must be able to stand up to legal challenge.**

## Background Information

<b>Title of the policy / project / service being considered</b>	Highways Infrastructure Asset Management Strategy	<b>Person / people completing analysis</b>	Jonathan Evans
<b>Service Area</b>	Highways Services	<b>Lead Officer</b>	Jonathan Evans
<b>Who is the decision maker?</b>	Cllr Richard G Davies	<b>How was the Equality Impact Analysis undertaken?</b>	Discussion between officers involved using guidance on Equality & Diversity.
<b>Date of meeting when decision will be made</b>	24/10/2022	<b>Version control</b>	V1.0
<b>Is this proposed change to an existing policy/service/project or is it new?</b>	Existing policy/service/project	<b>LCC directly delivered, commissioned, re-commissioned or de-commissioned?</b>	Commissioned
<b>Describe the proposed change</b>	<p>Lincolnshire County Council are responsible for managing a large highway network comprising approximately 900km of carriageway and its associated footways, structures, street lighting, drainage and signals assets. The management of this asset has a significant impact on the County's economy, residents, businesses and visitors.</p> <p>The Highways Infrastructure Asset Management Strategy updates the previous 2016 iteration and covers the period from 2022 – 2025 for which the Department for Transport proposals for the capitalised maintenance grant have been announced.</p>		

### **Evidencing the impacts**

In this section you will explain the difference that proposed changes are likely to make on people with protected characteristics. To help you do this first consider the impacts the proposed changes may have on people without protected characteristics before then considering the impacts the proposed changes may have on people with protected characteristics.

You must evidence here who will benefit and how they will benefit. If there are no benefits that you can identify please state 'No perceived benefit' under the relevant protected characteristic. You can add sub categories under the protected characteristics to make clear the impacts. For example under Age you may have considered the impact on 0-5 year olds or people aged 65 and over, under Race you may have considered Eastern European migrants, under Sex you may have considered specific impacts on men.

### **Data to support impacts of proposed changes**

When considering the equality impact of a decision it is important to know who the people are that will be affected by any change.

#### Population data and the Joint Strategic Needs Assessment

The Lincolnshire Research Observatory (LRO) holds a range of population data by the protected characteristics. This can help put a decision into context. Visit the LRO website and its population theme page by following this link: <http://www.research-lincs.org.uk> If you cannot find what you are looking for, or need more information, please contact the LRO team. You will also find information about the Joint Strategic Needs Assessment on the LRO website.

#### Workforce profiles

You can obtain information by many of the protected characteristics for the Council's workforce and comparisons with the labour market on the [Council's website](#). As of 1<sup>st</sup> April 2015, managers can obtain workforce profile data by the protected characteristics for their specific areas using Agresso.

**Positive impacts**

The proposed change may have the following positive impacts on persons with protected characteristics – If no positive impact, please state 'no positive impact'.

<b>Age</b>	The Highways Infrastructure Asset Management Strategy will result in change to the physical environment. The strategy of holding a steady state on all key asset groups and improving the unclassified network at the highest level will enable the wider authority to meet its overarching corporate objectives.
<b>Disability</b>	The Highways Infrastructure Asset Management Strategy will result in change to the physical environment. The strategy of holding a steady state on all key asset groups and improving the unclassified network at the highest level will enable the wider authority to meet its overarching corporate objectives. Projects that will be implemented throughout this strategy lifecycle will have positive impacts on persons with physical disabilities. Adherence to guidance in accordance with Disability Discrimination Act 1995 (DDA) has resulted in a range of advice, guidance and codes of practice drawn up to direct engineers and local authority officers on the best way to meet the needs of disabled people..
<b>Gender reassignment</b>	The Highways Infrastructure Asset Management Strategy will result in change to the physical environment. The strategy of holding a steady state on all key asset groups and improving the unclassified network at the highest level will enable the wider authority to meet its overarching corporate objectives.
<b>Marriage and civil partnership</b>	The Highways Infrastructure Asset Management Strategy will result in change to the physical environment. The strategy of holding a steady state on all key asset groups and improving the unclassified network at the highest level will enable the wider authority to meet its overarching corporate objectives.
<b>Pregnancy and maternity</b>	The Highways Infrastructure Asset Management Strategy will result in change to the physical environment. The strategy of holding a steady state on all key asset groups and improving the unclassified network at the highest level will enable the wider authority to meet its overarching corporate objectives.
<b>Race</b>	The Highways Infrastructure Asset Management Strategy will result in change to the physical environment. The strategy of holding a steady state on all key asset groups and improving the unclassified network at the highest level will enable the wider authority to meet its overarching corporate objectives.
<b>Religion or belief</b>	The Highways Infrastructure Asset Management Strategy will result in change to the physical environment. The strategy of holding a steady state on all key asset groups and improving the unclassified network at the highest level will enable the wider authority to meet its overarching corporate objectives.

<b>Sex</b>	The Highways Infrastructure Asset Management Strategy will result in change to the physical environment. The strategy of holding a steady state on all key asset groups and improving the unclassified network at the highest level will enable the wider authority to meet its overarching corporate objectives
<b>Sexual orientation</b>	The Highways Infrastructure Asset Management Strategy will result in change to the physical environment. The strategy of holding a steady state on all key asset groups and improving the unclassified network at the highest level will enable the wider authority to meet its overarching corporate objectives.

**If you have identified positive impacts for other groups not specifically covered by the protected characteristics in the Equality Act 2010 you can include them here if it will help the decision maker to make an informed decision.**

### **Adverse/negative impacts**

You must evidence how people with protected characteristics will be adversely impacted and any proposed mitigation to reduce or eliminate adverse impacts. An adverse impact causes disadvantage or exclusion. If such an impact is identified please state how, as far as possible, it is justified; eliminated; minimised or counter balanced by other measures.

If there are no adverse impacts that you can identify please state 'No perceived adverse impact' under the relevant protected characteristic.

**Negative impacts of the proposed change and practical steps to mitigate or avoid any adverse consequences on people with protected characteristics are detailed below. If you have not identified any mitigating action to reduce an adverse impact please state 'No mitigating action identified'.**

<b>Age</b>	No perceived adverse impact. The Strategy describes in general terms the state of highway assets and how they will be maintained. Its impacts are neutral between those with a protected characteristic and people who do not share that protected characteristic .
<b>Disability</b>	No perceived adverse impact. The Strategy describes in general terms the state of highway assets and how they will be maintained. Its impacts are neutral between those with a protected characteristic and people who do not share that protected characteristic .
<b>Gender reassignment</b>	No perceived adverse impact. The Strategy describes in general terms the state of highway assets and how they will be maintained. Its impacts are neutral between those with a protected characteristic and people who do not share that protected characteristic.
<b>Marriage and civil partnership</b>	No perceived adverse impact. The Strategy describes in general terms the state of highway assets and how they will be maintained. Its impacts are neutral between those with a protected characteristic and people who do not share that protected characteristic.
<b>Pregnancy and maternity</b>	No perceived adverse impact. The Strategy describes in general terms the state of highway assets and how they will be maintained. Its impacts are neutral between those with a protected characteristic and people who do not share that protected characteristic.



<b>Race</b>	No perceived adverse impact. The Strategy describes in general terms the state of highway assets and how they will be maintained. Its impacts are neutral between those with a protected characteristic and people who do not share that protected characteristic.
<b>Religion or belief</b>	No perceived adverse impact. The Strategy describes in general terms the state of highway assets and how they will be maintained. Its impacts are neutral between those with a protected characteristic and people who do not share that protected characteristic.
<b>Sex</b>	No perceived adverse impact. The Strategy describes in general terms the state of highway assets and how they will be maintained. Its impacts are neutral between those with a protected characteristic and people who do not share that protected characteristic.
<b>Sexual orientation</b>	No perceived adverse impact. The Strategy describes in general terms the state of highway assets and how they will be maintained. Its impacts are neutral between those with a protected characteristic and people who do not share that protected characteristic.

**If you have identified negative impacts for other groups not specifically covered by the protected characteristics under the Equality Act 2010 you can include them here if it will help the decision maker to make an informed decision.**

## Stakeholders

Stake holders are people or groups who may be directly affected (primary stakeholders) and indirectly affected (secondary stakeholders)

You must evidence here who you involved in gathering your evidence about benefits, adverse impacts and practical steps to mitigate or avoid any adverse consequences. You must be confident that any engagement was meaningful. The Community engagement team can help you to do this and you can contact them at [consultation@lincolnshire.gov.uk](mailto:consultation@lincolnshire.gov.uk)

State clearly what (if any) consultation or engagement activity took place by stating who you involved when compiling this EIA under the protected characteristics. Include organisations you invited and organisations who attended, the date(s) they were involved and method of involvement i.e. Equality Impact Analysis workshop/email/telephone conversation/meeting/consultation. State clearly the objectives of the EIA consultation and findings from the EIA consultation under each of the protected characteristics. If you have not covered any of the protected characteristics please state the reasons why they were not consulted/engaged.

### Objective(s) of the EIA consultation/engagement activity

No consultation or engagement activity undertaken.

**Who was involved in the EIA consultation/engagement activity? Detail any findings identified by the protected characteristic**

<b>Age</b>	As detailed above. None identified.
<b>Disability</b>	As detailed above. None identified.
<b>Gender reassignment</b>	As detailed above. None identified.
<b>Marriage and civil partnership</b>	As detailed above. None identified.
<b>Pregnancy and maternity</b>	As detailed above. None identified.
<b>Race</b>	As detailed above. None identified.
<b>Religion or belief</b>	As detailed above. None identified.

<b>Sex</b>	As detailed above. None identified.
<b>Sexual orientation</b>	As detailed above. None identified.
<b>Are you confident that everyone who should have been involved in producing this version of the Equality Impact Analysis has been involved in a meaningful way?</b> The purpose is to make sure you have got the perspective of all the protected characteristics.	Yes.
<b>Once the changes have been implemented how will you undertake evaluation of the benefits and how effective the actions to reduce adverse impacts have been?</b>	Annual review of the Strategy

### Further Details

<b>Are you handling personal data?</b>	<p>No</p> <p>If yes, please give details.</p>
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	Action	Lead officer	Timescale
<b>Actions required</b> Include any actions identified in this analysis for on-going monitoring of impacts.	Regular Review	Jonathan Evans	Continual monitoring and annual review.
<b>Signed off by</b>		<b>Date</b>	1

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**Open Report on behalf of Andy Gutherson - Executive Director - Place**

Report to:	<b>Highways and Transport Scrutiny Committee</b>
Date:	<b>24 October 2022</b>
Subject:	<b>Highways Infrastructure Asset Management Plan 2022</b>

**Summary:**

This item invites the Highways and Transport Scrutiny Committee to consider a paper regarding the Highways Infrastructure Asset Management Plan 2022.

This decision is due to be considered by the Executive Councillor for Highways, Transport and IT between 31 October to 8 November 2022. The views of the Scrutiny Committee will be reported to the Executive Councillor for Highways, Transport and IT as part of his consideration of this item.

**Actions Required:**

That the Highways and Transport Scrutiny Committee:

- 1) considers the attached report and determines whether the Committee supports the recommendations to the Executive Councillor for Highways, Transport and IT as set out in the report.
- 2) agrees any additional comments to be passed on to the Executive Councillor for Highways, Transport and IT in relation to this item.

**1. Background**

The Executive Councillor is due to consider the Highways Infrastructure Asset Management Plan 2022 between 31 October to 8 November 2022. The full report to the Executive Councillor is attached at Appendix 1 to this report.

**2. Conclusion**

Following consideration of the attached report, the Committee is requested to consider whether it supports the recommendations in the report and whether it wishes to make any additional comments to the Executive Councillor. Comments from the Committee will be reported to the Executive Councillor.

**3. Consultation**

The Committee is being consulted on the proposed decision of the Executive Councillor between 31 October to 8 November 2022.

**4. Appendices**

These are listed below and attached at the back of the report	
Appendix 1	Report to the Executive Councillor for Highways, Transport and IT on Highways Infrastructure Asset Management Plan 2022.

**5. Background Papers**

No background papers within the meaning of section 100D of the Local Government Act 1972 were used in the preparation of this Report.

This report was written by Clair Dixon, Policy and Strategic Asset Manager - Highways, who can be contacted on [clair.dixon@lincolnshire.gov.uk](mailto:clair.dixon@lincolnshire.gov.uk).



**Open Report on behalf of Andy Gutherson – Executive Director for Place**

Report to:	<b>Councillor R G Davies, Executive Councillor for Highways, Transport and I.T.</b>
Date:	<b>31 October – 8 November 2022</b>
Subject:	<b>Highways Infrastructure Asset Management Plan 2022</b>
Decision Reference:	<b>I026604</b>
Key decision?	<b>Yes</b>

**Summary:**

This report sets out the proposed amendments to the Highways Infrastructure Asset Management Plan for 2022.

The report invites the Executive Councillor for Highways Transport and I.T. to approve the draft plan and its appendices.

**Recommendation(s):**

1. That the Executive Councillor approves the Highways Infrastructure Asset Management Plan 2022 in the form of the draft attached at Appendix A of this report.
2. That the new Highways Infrastructure Asset Management Strategy is published on [www.lincolnshire.gov.uk](http://www.lincolnshire.gov.uk)

**Alternatives Considered:**

- |    |  |
|----|--|
| 1. | Not to update the Highways Infrastructure Asset Management Plan - continuing to operate on the 2021 version would be a failure of our commitment to good practice through annual review. |
|----|--|

**Reasons for Recommendation:**

Approval of the proposed update to the plan evidences our continual review and improvement of the Highways Infrastructure Asset Management Plan in the interest of the service and of achieving maximum funding through the Department for Transport (DFT) self-assessment fund.

## **1. Background**

Lincolnshire County Council's Highways Infrastructure Asset Management Plan (HIAMP) sets out policies and standards around highways maintenance. It is reviewed annually to ensure that agreement is in place around the direction of the highways service.

Asset Management, with regards to highways can be defined as "a systematic approach to meeting the strategic need for the management and maintenance of highways infrastructure assets through long term planning and optimal allocation of resources in order to manage risk and meet the performance requirements of the authority in the most efficient and suitable manner".

Commitment to this approach through a robust Asset Management Plan is instrumental towards aligning ourselves to the requirements set out by Central Government and achieving the aim of maintaining our Band 3 status. This status allows us as an Authority to receive maximum funding from the Department of Transport for Highways maintenance.

The Highways Infrastructure Asset Management Plan is the third level of a suite of documents that categorises and explains our approach to Highways Asset Management in line with best practice, as outlined by the Department for Transport. The first is the Asset Management Policy which outlines the overarching principles in line with the Council's vision and business plan. The second, the Asset Management Strategy which outlines our long-term strategies for maintaining the asset to maximum potential, through optimal lifecycle planning to achieve the principals set out in the Policy.

The Highways Infrastructure Asset Management Plan can be defined as the document which outlines our operational approach towards achieving both sets of goals explained in the Policy and Strategy through fixed policy requirements and standards. For information, the document runs alongside the Network and Traffic Management Plan, which focuses more on network availability whilst the Asset Management Plan looks at the maintenance of the network.

"Well Managed Highway Infrastructure: A Code of Practice" was published in October 2016 to provide local authorities with guidance on how to develop a highway maintenance policy based on best practice. The document prescribes standards and suggested service levels. The Code of Practice is regularly referred to during highways claims against local authorities, who are expected to explain any deviation from the code. The HIAMP is therefore usually used as a reference point during legal claims.

"Well Managed Highway Infrastructure: A Code of Practice" is entirely risk based, moving away from a prescriptive document to a system of guidance that encourages authorities to develop their own standards and levels of service based on evidence-based risk assessment. Many of the prescribed standards which were in the previous code have now been removed entirely, empowering and encouraging highways authorities to adopt a risk-based maintenance plan. The Highways Infrastructure Asset Management Plan has traditionally highlighted any local deviations from the Code of Practice.

The Highways Infrastructure Asset Management Plan outlines the Council's approach to maintaining our highway assets through a variety of methods. The document is structured in three key Asset Groups: Highways, Structures and Street Lighting. Firstly, it shows our

approach to the accurate recording of all our assets through our Asset Management system. Secondly the document highlights our approach to maintaining the condition of all individual assets in extensive detail. Thirdly, it demonstrates our method of inspection for all assets. Finally, the document outlines the various ways we programme our maintenance regime, from reactive to planned works and future programmes.

From a programmed maintenance perspective, asset management as outlined within this Plan entails focusing on works such as resurfacing or surface dressing schemes using a structured preventative approach, allowing for a more proactive maintenance method. These schemes are prioritised based on need, utilising data and engineering methodology to determine priority, and are collated in an annual works programme. This methodology is used for all highway assets, as evidenced within the Plan throughout.

From a reactive maintenance perspective, dealing with potholes alongside several other safety defects across Highways, Structures and Street Lighting the asset management approach endeavours to provide for a first-time fix. Our response time matrix, as highlighted in Appendix B of the Highways Infrastructure Asset Management Plan, outlines how and when we respond to safety defects for carriageways, footways, obstructions, drainage, signs and lines and verges.

## **Highways Infrastructure Asset Management Plan 2022**

Continued annual review is necessary for the Highways Infrastructure Asset Management Plan as it relates more closely to operation of the service and demonstrates our continued efforts to align fully with an approach of Asset Management and best practice. This version has been aligned to current operational processes and Volume 4 – Street Lighting has been aligned with the street lighting policy as approved in April 2022. Therefore, the Highways Infrastructure Asset Management Plan 2022 does contain a number of policy changes, however these have no operational impact. There are a number of alterations throughout the plan which can be found in Appendix B – Highways Infrastructure Asset Management Plan 2022 - Summary of Changes.

## **2. Legal Issues:**

### **Equality Act 2010**

Under section 149 of the Equality Act 2010, the Council must, in the exercise of its functions, have due regard to the need to:

- Eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Act.
- Advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it.
- Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

The relevant protected characteristics are age; disability; gender reassignment; pregnancy and maternity; race; religion or belief; sex; and sexual orientation.

Having due regard to the need to advance equality of opportunity involves having due regard, in particular, to the need to:

- Remove or minimise disadvantages suffered by persons who share a relevant protected characteristic that are connected to that characteristic.
- Take steps to meet the needs of persons who share a relevant protected characteristic that are different from the needs of persons who do not share it.
- Encourage persons who share a relevant protected characteristic to participate in public life or in any other activity in which participation by such persons is disproportionately low.

The steps involved in meeting the needs of disabled persons that are different from the needs of persons who are not disabled include, in particular, steps to take account of disabled persons' disabilities.

Having due regard to the need to foster good relations between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to tackle prejudice, and promote understanding.

Compliance with the duties in section 149 may involve treating some persons more favourably than others.

The duty cannot be delegated and must be discharged by the decision-maker. To discharge the statutory duty the decision-maker must analyse all the relevant material with the specific statutory obligations in mind. If a risk of adverse impact is identified consideration must be given to measures to avoid that impact as part of the decision-making process.

This review of the Highways Infrastructure Asset Management Plan is considered to have no impact, as the strategy is at a high level of generality and is neutral in its impact on people with a protected characteristic when compared with people who do not share that characteristic.

Joint Strategic Needs Assessment (JSNA) and the Joint Health and Wellbeing Strategy (JHWS)

The Council must have regard to the Joint Strategic Needs Assessment (JSNA) and the Joint Health and Wellbeing Strategy (JHWS) in coming to a decision.

The effect of revisions to the Highways Infrastructure Asset Management Plan on the JSNA and JHWS has been considered and deemed to have no direct impact.

Crime and Disorder

Under section 17 of the Crime and Disorder Act 1998, the Council must exercise its various functions with due regard to the likely effect of the exercise of those functions on, and the

need to do all that it reasonably can to prevent crime and disorder in its area (including anti-social and other behaviour adversely affecting the local environment), the misuse of drugs, alcohol and other substances in its area and re-offending in its area.

The duties under section 17 of the Crime and Disorder Act 1988 have been considered and it is deemed that the proposed changes to the Highways Infrastructure Asset Management Plan will have no direct impact.

### **3. Conclusion**

Following Consideration of the report, the Executive Councillor is requested to consider whether to approve the changes implemented in the Highways Infrastructure Asset Management Plan 2022 attached as Appendix A with a summary of changes attached as Appendix B. The new Plan will then become operational following the decision.

### **4. Legal Comments:**

The Council has the power to adopt the Policy proposed. The decision is consistent with the Policy Framework and within the remit of the Executive Councillor.

### **5. Resource Comments:**

The programme of works that results from the implementation of the Highways Infrastructure Asset Management Plan is budgeted for in the Council's Capital Programme and Revenue Budget which are both reviewed annually as part of the normal budget setting process.

Works of this nature are currently experiencing significant inflationary pressures which are being managed within the overall priorities of the Plan and by committing additional resources from reserves and underspends as and when they become available.

### **6. Consultation**

#### **a) Has Local Member Been Consulted?**

n/a

#### **b) Has Executive Councillor Been Consulted?**

Yes

#### **c) Scrutiny Comments**

The decision will be considered by the Highways and Transport Scrutiny Committee at its meeting on 24 October 2022 and the comments of the Committee will be reported to the Executive Councillor.

#### **d) Risks and Impact Analysis**

Attached as Appendix C

## 7. Appendices

These are listed below and attached at the back of the report	
Appendix A	Highways Infrastructure Asset Management Plan 2022
Appendix B	Highways Infrastructure Asset Management Plan 2022 – Summary of Changes
Appendix C	Highways Infrastructure Asset Management Plan 2022 - Equality Impact Analysis

## 8. Background Papers

The following background papers as defined in the Local Government Act 1972 were relied upon in the writing of this report.

Document title	Where the document can be viewed
Well Managed Highways Infrastructure a Code of Practice	<a href="http://www.ukroadsliaisongroup.org/en/codes/">http://www.ukroadsliaisongroup.org/en/codes/</a>
Highways Infrastructure Asset Management Plan 2021	<a href="https://www.lincolnshire.gov.uk/directory-record/61685/highways-infrastructure-asset-management-plan">https://www.lincolnshire.gov.uk/directory-record/61685/highways-infrastructure-asset-management-plan</a>

This report was written by Clair Dixon, Policy and Strategic Asset Manager - Highways, who can be contacted on [clair.dixon@lincolnshire.gov.uk](mailto:clair.dixon@lincolnshire.gov.uk).



# Highways Infrastructure Asset Management Plan

October 2022

Document Owner: Clair Dixon,  
Policy and Strategic Asset Manager

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## Registry of Amendments

Amendment Number	Date	Brief Description of Amendments made	Name and Job Title
1	September 2022	Full review and update of the 2021 HIAMP document with changes throughout to include amendments to dates, hyperlinks, policy titles 'cycle routes' amended to 'cycleways' all references to DVI inspections removed and all content now written in first person.	Clair Dixon, Policy and Strategic Asset Manager
2	September 2022	Volume 1: Road network length updated, Databases updated and additional information on ISO 19650 added, reference to category 1 & 2 defects removed.	Clair Dixon, Policy and Strategic Asset Manager
3	September 2022	Volume 2: SCANNER & CVI Inspection frequency updated. Information on targeted gully approach to gully cleansing added. Reference to Inspection Schedules based upon hierarchy removed.	Clair Dixon, Policy and Strategic Asset Manager
4	September 2022	Volume 3: Structure numbers updated and reference to the Resilient Network plan being in development removed	Clair Dixon, Policy and Strategic Asset Manager
5	September 2022	Volume 4: Street lighting section updated to align with the Street Lighting Policy 2022	Clair Dixon, Policy and Strategic Asset Manager
6	September 2022	Appendix A: Risk matrix and Category 1 & 2 information removed. Escalation process amended from '1 or 2 hour' to 2 hours. Carriageway Hierarchy 5 response times corrected. 'Or equal to' added in where categories show defect 'less than'. Caveat added to Hierarchy 4/5/6/7 for missing enforcement signs and give way/stop line deteriorating regarding 7 days applying.	Clair Dixon, Policy and Strategic Asset Manager
7	September 2022	Appendix F: Action Plan updated	Clair Dixon, Policy and Strategic Asset Manager

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## Foreword

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The Highways Infrastructure Asset Management Plan reflects the approach outlined in the [Code of Practice "Well-Managed Highway Infrastructure"](#). This Code of Practice serves as a guidance document to Local Authorities, encouraging them to implement a Risk-Based Approach within their service. This document demonstrates our continued commitment to a Risk-Based Approach, whilst taking into account the specific local factors that define our County.

We have, for some time been committed to developing a consistent, proactive approach towards our service. Therefore, we are continuing to demonstrate best practice with regards to Asset Management. Recent weather events show us that this approach is very much the right way for us to deliver our service, to make maximum use of our available resources. Our asset-led approach has already fostered results throughout the years, notably through our efforts to align ourselves with the Department for Transport's requirements through the Self-Assessment Process. These efforts enabled us at the time to become one of the first two authorities to achieve Band 3-status with the DfT, receiving maximum funding as a consequence.

National indicators through network level surveys have demonstrated an overall improvement in the condition of our classified and unclassified network by enforcing effective Asset Management. Although however critical, the carriageway network should not be the Plan's sole focus of attention. The Plan will highlight our linked approach towards all Assets that are the responsibility of our Highways Service. Therefore the Plan has been divided up into a Highways, Structures and Street Lighting Volume. All Volumes should show our commitment towards reactive and proactive maintenance for these Assets through the use of a risk-based approach. Our new Highways 2020 Contracts have been designed to help deliver the quality of highway services which reflect an asset management approach and a focus on effective and efficient service delivery.

Lincolnshire, with its distinct rural tone surrounding developing and growing urbanised centres such as Grantham, Lincoln City, Boston, and Spalding among others, requires an efficient highway network that takes into account all factors that may be influencing its development. We as a service believe that Asset Management is the correct way to deal with the challenges ahead for our Highways Service.

**Councillor Richard Davies** Executive Councillor: Highways,  
Transport and IT



# Volume 1 - Overarching Principles

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## 1. Introduction

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### 1.1. Principles and Context of the Plan

1.1.1. This document replaces the HIAMP (April 2021) and applies to all our Highway Assets.

1.1.2. The Highways Infrastructure Asset Management Plan (HIAMP) is produced as a single Plan spanning four Volumes to emphasise an integrated approach to highway network infrastructure assets. Overarching matters are dealt with in Volume 1 and additional asset-specific matters are dealt with in [Volumes 2, 3 and 4](#). This approach is consistent with the Highways Infrastructure Asset Management Strategy.

1.1.3. It is designed to align with the guidance in [Well Managed Highway Infrastructure – Code of Practice \(October 2016\)](#), whilst setting out a specific approach in line with local needs and priorities. There has been a shift from the previous guidance set out in *Well Managed Highways – Code of Practice for Highway Maintenance Management* (July 2005) which was prescriptive, to a risk-based approach determined by each Highway Authority. This Plan will set out that approach considering appropriate analysis and development and is approved by our Executive processes.

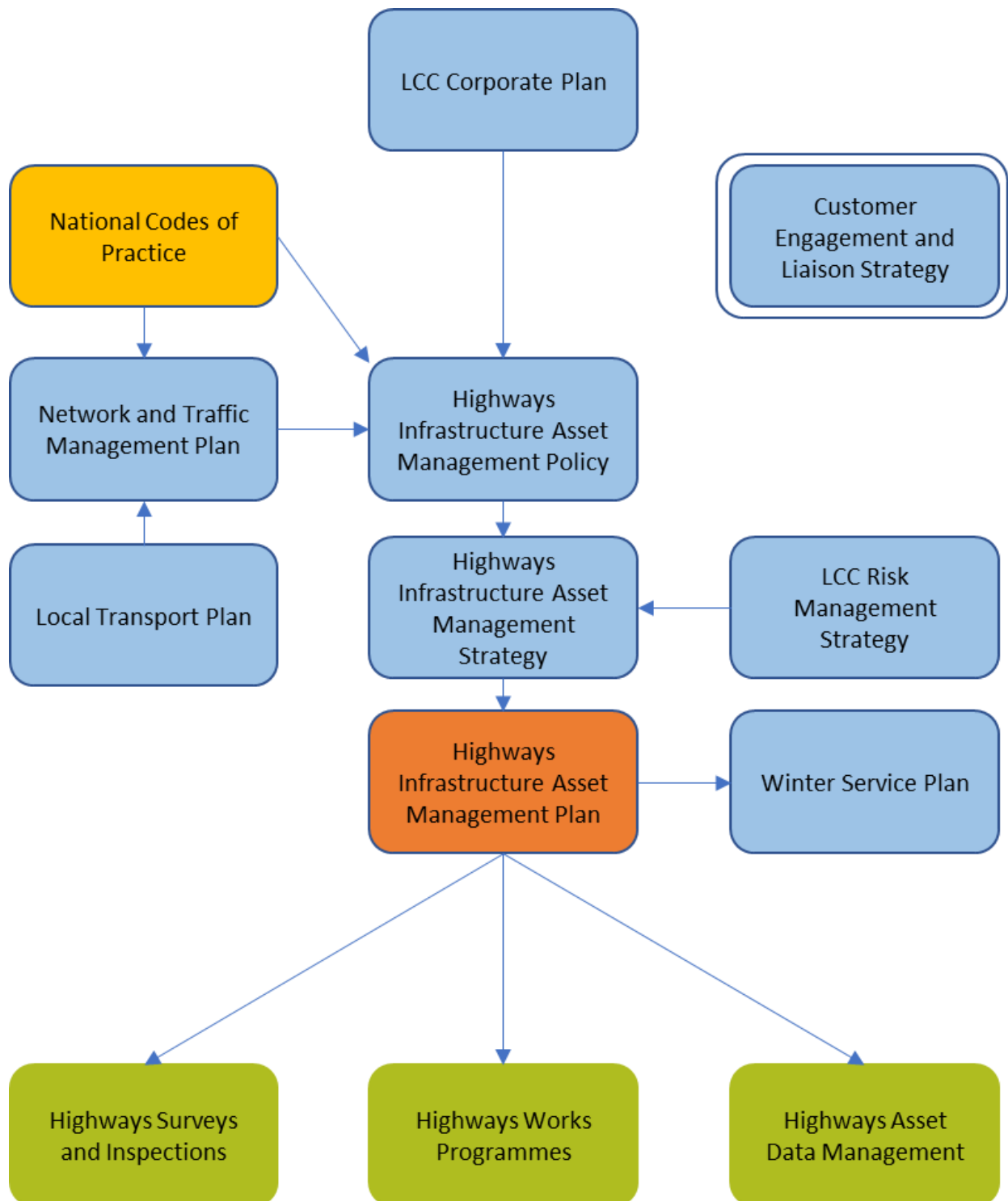
### 1.2. Status of the Plan

1.2.1. This Plan is approved as an operational Policy document by the Executive Councillor for Highways, Transport and I.T. The Plan is subject to annual Scrutiny from the elected members and will be reviewed as such on a yearly basis. The Action Plan highlighted in [Appendix F](#) demonstrates a continuous approach to trying to improve our service through effective Asset Management.

### 1.3. Links to Other Documents

1.3.1. The HIAMP forms part of a suite of documents which define our Asset Management Policies. The links to other documents are set out in the diagram below:





## 1.4. Maintenance Practice

- 1.4.1. We undertake several maintenance activities on the highways network which will be outlined throughout the course of this document.
- 1.4.2. Maintenance types contribute in varying degrees to the core objectives of safety, customer service, serviceability and sustainability. Levels of service and delivery arrangements shall be established having regard to these objectives and be focused on outcomes.
- 1.4.3. The main types of maintenance are as follows:

**Routine** – Regularly scheduled works (often cyclic) e.g., lamp replacement, drainage cleansing, grass cutting and sign face cleaning etc.

**Reactive** – Safety-based, responding to inspections, customer reports or emergencies.

**Planned** – Planned schemes to extend the life of or renew an asset.

**Regulatory** – Inspecting and regulating the activities of others affecting the highway.

**Winter Service** –Gritting and snow ploughing in adverse weather.

## 1.5. Scope of the Plan

- 1.5.1. The document will comprise of three Volumes with each outlining a specific Asset Group. The three Asset Groups are:
- Highways;
  - Structures; and
  - street Lighting.
- 1.5.2. Each Asset group volume will contain the following information: Legal Framework, Asset Condition, Asset Management, Asset Inspection and Asset Programming. All these core elements generate a consistent approach to Best-Practice Asset Management, and it puts into practice the demands of good life-cycle planning outlined within our [Highways Infrastructure Asset management Strategy](#).
- 1.5.3. The HIAMP is not intended as a detailed technical reference for all aspects of highway infrastructure maintenance, or to repeat technical guidance available elsewhere. Areas referred to but not dealt with in detail include:
- highway improvement and new construction;

- network management, including the traffic management duty, or equivalent such as Permitting Schemes and management of utilities, which is dealt with in our [Network and Traffic Management Plan](#);
- management and maintenance of Public Rights of Way;
- highway development management, including securing funds associated with developer obligations; and
- town centre management, including use of public space.

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## 2. Policy Framework

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### 2.1. Asset Management

- 2.1.1. The Highways Infrastructure Asset Management Guidance (HIAMG) defines Asset Management as follows:

“A systematic approach to meeting the strategic need for the management and maintenance of highway infrastructure assets through long term planning and optimal allocation of resources in order to manage risk and meet the performance requirements of the authority in the most efficient and sustainable manner.”

- 2.1.2. The Association of Directors of Environment, Planning and Transport (ADEPT) define asset management as:

"A strategic approach that identifies the optimal allocation of resources for the management, operation, preservation and enhancement of the highways infrastructure to meet the needs of current and future customers."

- 2.1.3. We are committed to the development of an Asset Management led approach to the maintenance of highways infrastructure assets. This is highlighted by our continual Band 3 status audited by central government through the incentivised fund created in December 2014. One element of this funding regime rewards authorities who can demonstrate that they have adopted an asset management-based approach to the management of their infrastructure assets.

- 2.1.4. Our [Highways Asset Management Policy](#) and [Highways Infrastructure Asset Management Strategy](#) set out the high-level principles of the management of the highway assets.

- 2.1.5. Asset management supports making the case for funding, for better communication with stakeholders, and facilitates a greater understanding of the contribution highway infrastructure assets make to economic growth and social well-being of local

communities, in line with the requirements set out by the [Lincolnshire Joint Strategic Needs Assessment](#) and the [Joint Health and Wellbeing Strategy](#).

- 2.1.6. Authorities have certain legal obligations with which they need to comply, and which may be the subject of claims for loss or personal injury or of legal action by those seeking to establish non-compliance by authorities. It is recognised that in such cases, [Well Managed Highway Infrastructure – Code of Practice \(October 2016\)](#), may be regarded as a relevant consideration. Where, in the light of local circumstances, we have elected to adopt policies or approaches different from those suggested by the Code, they are identified, together with the reasoning for such differences, within this Plan.
- 2.1.7. We have developed a Highways Asset Management Policy document, outlining our approach towards effective asset management in line with the member-approved commissioning strategies developed by us as a whole.
- 2.1.8. We have further developed a Highways Infrastructure Asset Management Strategy, outlining our approach towards formalising strategies for investment in key highway asset groups through life-cycle planning, defining affordable service standards, improving how the highway assets are managed and subsequently enabling more effective and efficient highways services to be delivered.

## **2.2. Stakeholders and Communication**

- 2.2.1. Stakeholder expectations and effective customer communication are highly important to us, and we have a [Community Engagement Policy](#) and a [Community Engagement Strategy](#) in place. This has driven the Customer Engagement and Liaison Strategy for Highways, written in line with service delivery and our asset management led approach, putting the customer at the heart of our service. Considerations for this strategy and the communication of highways asset management have been developed to and in excess of recommendations within [UKRLG Highway Infrastructure Asset Management Guidance Document, Part A](#).
- 2.2.2. Arrangements have been established to facilitate the involvement of all authority elected members, employees, contractors and agents in building commitment and pride in the highway maintenance service and maximising individual contributions to the process of continuous improvement. These arrangements are not set out in detail within this plan but are covered in our [Highways Infrastructure Asset Management Strategy](#).

## **2.3. Other Authorities**

- 2.3.1. Consultation with other local, combined and strategic adjoining Highway Authorities has taken place to discuss the changes proposed within the Code of Practice. A

consistency in service, despite the various approaches towards implementing the Code of Practice, has been ensured by communicating with all adjacent authorities.

- 2.3.2. Responsibility for assets on our boundaries, e.g., river bridges, has been agreed with adjoining authorities. We have outlined all our boundaries with adjacent Local Authorities and included them within our Asset Management System.
- 2.3.3. We have entered into agreements with adjacent authorities for certain aspects of service to be carried out by one Council on behalf of the other. Specific shared gritting route responsibilities can be found in the [Winter Service Plan](#).

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## 3. Legal Framework

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### 3.1. General and Specific Requirements

- 3.1.1. All duties, powers and legislation, both general and specifically related to assets, e.g., highways, structures and street lighting are dealt with in [Appendix E](#) of this plan.
- 3.1.2. Much of highway infrastructure maintenance activity is based upon statutory powers and duties contained in legislation and interpretations of these powers and duties provided by the court.
- 3.1.3. All those involved in highway maintenance with us should have an appropriate understanding of their duties and powers, their implications, and the procedures used to manage and mitigate risk.
- 3.1.4. Specific legislation mentioned is generally that for England.

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## 4. Strategy and Hierarchy

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### 4.1. Highways Infrastructure Asset Management Strategy

- 4.1.1. Our [Highways Infrastructure Asset Management Strategy](#) has been developed in line with the [UKRLG Highway Infrastructure Asset Management Guidance \(HIAMG\) Part B](#).
- 4.1.2. Our Highways Infrastructure Asset Management Strategy sets out how the [Highways Asset Management Policy](#) is to be achieved, how long term objectives for managing the highway are to be met and how the strategy is to be implemented, including setting targets and measuring performance. It sets clear direction, provides links with other relevant documents, such as corporate plans, and sets out the benefits of investing in the highway infrastructure.

- 4.1.3. The development of a HIAMP shows that we are delivering value when maintaining highways as well as addressing wider objectives of corporate strategy and transport policy.
- 4.1.4. The HIAMP will be a key component of the Highways Infrastructure Asset Management Strategy and will include such items as:
- a set of objectives and policies linked to business objectives through Network Safety, Customer Service, Network Serviceability and Network Sustainability;
  - an asset or inventory register;
  - managing risk of failure or loss of use;
  - development of co-ordinated forward programme for highway maintenance, operation and improvement; and
  - measurements of performance and continuous improvement.
- 4.1.5. We adhere to the HMEP (Highways Maintenance Efficiency Programme) sector-led transformation programme. It is designed to maximise returns from highways investment and help to improve efficiency and effectiveness of the local highways sector which it is aimed at.
- 4.1.6. HMEP has developed a series of products to inform highways authorities of examples of best practice and recommendations which should lead to an improved highway maintenance service and better value for money for taxpayers.
- 4.1.7. We have adopted, where affordable, recommendations which add value to current practices.
- 4.1.8. The [HMEP Pothole Guidance](#) and [HMEP Asset Management Guidance](#) products both recommend that authorities should employ an asset management approach. The principle "prevention is better than cure" in determining the balance between structural, preventative and reactive maintenance activities has been embraced by us. This philosophy should improve the resilience of the highway network and reduce the occurrence of potholes in the future, informing the risk-based approach to response times in a move to "first-time fixes" to highway defects.

## **4.2. Functional Hierarchy**

- 4.2.1. A network hierarchy based on asset function is the foundation of a risk-based maintenance strategy. It is crucial in establishing levels of service and to the statutory network management role for developing co-ordination.
- 4.2.2. The hierarchy structure adopted reflects the whole highway network and the needs, priorities and actual use of each infrastructure asset. The carriageway hierarchy, for

example, is determined partly by traffic volume, but also influenced by factors such as pedestrian or cyclist usage amongst other factors. Collectively, these issues may be referred to as the 'functionality' of the section of highway in question.

- 4.2.3. The hierarchies outlined are maintenance hierarchies. They will be utilised to determine inspection frequency and reactive maintenance response times first and foremost. The maintenance hierarchies will also be used to increase efficiency within the use of our scheme selection toolkit.
- 4.2.4. Lincolnshire is a large and sparsely populated county with a greater than average length of road per head of population. The length of the road network is 9,240 km of carriageway. The network also comprises 4,377 km of footway and cycleway. Clearly it is not practicable to develop and maintain the whole of the road network to the same standards.
- 4.2.5. Therefore, we have designated a hierarchy of road types with each highway link being allocated to one of these types. The types reflect the roles of different carriageways, and footways/cycleways based upon these principles.
- 4.2.6. Hierarchies are dynamic and will be regularly reviewed to reflect changes in network characteristics and functionality so that maintenance strategy reflects the current situation, rather than the use expected when the hierarchy was originally defined.
- 4.2.7. Where major maintenance, construction or other development signalling a change over the long term involves significant traffic diversion, or when congestion in one part of the network results in traffic shift to another part of the network, these changes shall be reflected in the hierarchy and subsequently in the maintenance and network management regimes.

### **4.3. Carriageway Hierarchy**

- 4.3.1. Carriageway Hierarchy will not necessarily be determined by the road classification, but by functionality and scale of use. Hierarchy MRN, 1 and 2 roads comprise the County's strategic road network. Table 1 sets out our local maintenance hierarchies.

**Table 1**

Our Local Standard	National Standard
<p><b>Major Road Network</b></p> <p>Local Highways Authority selected A roads that have a strategic importance which links areas across the UK. These routes encounter constant high levels of traffic and should be easily accessible and identifiable. Further consideration to be made is the traffic generated by seaside tourism during the vacation months, which creates the need for robust routes to seaside attractions. They will be the primary component of our resilient network and subsequently our precautionary salting network.</p> <p>Major Road Network in Lincolnshire to include:</p> <p>A15 (M180 to Sleaford)</p> <p>A16</p> <p>A17</p> <p>A52 (Boston – Skegness)</p> <p>A57 (Dunham bridge from A1 – Lincoln)</p> <p>A46 (Lincoln Saxilby Road Roundabout to Nettleham Road roundabout)</p> <p>A151</p> <p>A158</p>	<p><b>Category 2 - Strategic Route</b></p> <p>Trunk and some Principal “A” roads between Primary Destinations</p> <p>Routes for fast-moving long-distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.</p>
<p><b>Hierarchy 1</b></p> <p>Major long distance, inter-urban routes, which either:</p> <ul style="list-style-type: none"> <li>– Provide a network of routes for traffic passing through the county,</li> <li>– Link major urban areas (over 8000 population) to major urban areas outside the county</li> </ul> <p>Particularly for long distance through industrial and commercial traffic.</p>	<p><b>Strategic Route</b></p> <p>Trunk and some Principal “A” roads between Primary Destinations</p> <p>Routes for fast-moving long-distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.</p>



Our Local Standard	National Standard
<p><b>Hierarchy 2</b></p> <p>The remaining inter-urban routes of more than local importance by virtue of their role in handling substantial flows of long-distance traffic between:</p> <ul style="list-style-type: none"> <li>– Adjacent towns within the county.</li> <li>– Lincolnshire towns near the county boundary and nearby centres of populations in adjacent counties.</li> </ul>	<p><b>Main Distributor</b></p> <p>Major urban and Inter-Primary links. Short to medium distance traffic.</p> <p>Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access. In urban areas speed limits are usually 40mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.</p>
<p><b>Hierarchy 3</b></p> <p>Local roads which provide a good quality connection between the main settlements (population of 500 plus) to the MRN, H1 and H2 Roads, including rural bus routes and links to major HGV generators.</p>	<p><b>Secondary Distributor</b></p> <p>B and C class roads and some unclassified urban routes carrying bus, HGV and local traffic with frontage access and frequent junctions</p> <p>In rural areas these roads link the larger villages and HGV generators to the Strategic and Main Distributor Network. In built areas these roads have 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On-street parking is generally unrestricted except for safety reasons.</p>
<p><b>Hierarchy 4</b></p> <p>Classified roads, which link the smaller villages and settlements to the MRN, H1, H2 or H3 roads.</p>	<p><b>Link Roads</b></p> <p>Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions</p> <p>In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two-way traffic. In urban areas they are residential or industrial inter-connecting roads with 30 mph speed limits random pedestrian movements and uncontrolled parking.</p>

Our Local Standard	National Standard
<p><b>Hierarchy 5</b></p> <p>Unclassified roads, which link the smaller villages and settlements to the MRN, H1, H2 or H3 roads.</p>	<p><b>Link Roads</b></p> <p>Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions</p> <p>In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two-way traffic. In urban areas they are residential or industrial inter-connecting roads with 30 mph speed limits random pedestrian movements and uncontrolled parking.</p>
<p><b>Hierarchy 6</b></p> <p>Urban and rural roads whose main purpose is to provide access to residential properties or provide access to agricultural land.</p>	<p><b>Local Access Road</b></p> <p>Roads serving limited numbers of properties carrying only access traffic.</p> <p>In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas they are often residential loop roads or cul-de-sacs.</p>
<p><b>Hierarchy 7</b></p> <p>Minor metalled rural and small roads which include carriageways overgrown by vegetation. They serve a very limited number of properties or provide access to agricultural land. They include Gated roads and restricted access roads.</p>	<p><b>Minor Roads</b></p> <p>Little used roads serving very limited numbers of properties.</p> <p>They are locally defined</p>
<p><b>Hierarchy 8</b></p> <p>The remaining Unclassified Roads, which although we are liable for in terms of maintenance are un-metalled.</p>	<p><b>Minor Roads</b></p> <p>Little used roads serving very limited numbers of properties.</p> <p>They are locally defined.</p>

4.3.2. Assignment of a carriageway to a particular hierarchy takes the following issues into consideration:

- character and volume of traffic;
- current usage and effect of proposed development works;
- routes to important local facilities and to the strategic network (for more information, please refer to the Winter Service Plan);
- designation as a traffic sensitive route;
- accident and other risk assessment;
- potential for use as a diversion route;
- special characteristic of certain assets, e.g., historic structures;
- access to schools, hospitals and medical centres;
- vulnerable users or people with special needs, elderly people’s homes etc; and
- ceremonial routes and special events.

#### 4.4. Footway and Cycleway Hierarchy

4.4.1. Footway Hierarchy is determined by functionality and scale of use. Table 2 sets out our local hierarchies.

**Table 2**

Our Local Standard	National Standard
<p><b>Hierarchy 1</b></p> <p>Footways in the main shopping street of the urban areas of towns</p> <p>Pedestrianised shopping streets in the urban areas of towns listed in the structure plan.</p> <p>Note: Hierarchy 1 status will not be extended beyond the main shopping street area merely because there are other shops or a proliferation of public buildings etc. outside the main shopping centre.</p>	<p><b>Primary Walking Routes</b></p> <p>Busy urban shopping and business areas and main pedestrian routes.</p>

Our Local Standard	National Standard
<p><b>Hierarchy 2</b></p> <p>Footways along main pedestrian routes just outside the main shopping area but within the central areas of towns listed in the structure plan.</p> <p>Local shopping streets in settlements not listed in the structure plan where there is a linear shopping development to 10 retail units or more within a 100m length.</p> <p>Footways remote from the carriageway linking main shopping streets (Hierarchy 1) to other areas e.g., pedestrian access to car park etc.</p>	<p><b>Secondary Walking Routes</b></p> <p>Medium usage routes through local areas feeding into primary routes, local shopping centres etc.</p>
<p><b>Hierarchy 3</b></p> <p>Linking local access footways through urban areas and busy rural footways.</p>	<p><b>Link Footways</b></p> <p>Linking local access footways through urban areas and busy rural footways.</p>
<p><b>Hierarchy 4</b></p> <p>Footways associated with low usage, for example estate roads to the main routes, cul-de-sacs, adjacent to local access roads and rural footways between villages.</p>	<p><b>Local Access Footways</b></p> <p>Footways associated with low usage, short estate roads to the main routes and cul-de-sacs.</p>

4.4.2. Assignment of a footway to a hierarchy takes the following issues into consideration:

- pedestrian volume;
- designation as a traffic sensitive pedestrian route;
- current usage and proposed usage;
- contribution to the quality of public space and streetscene;
- age and distribution of the population, proximity of schools or other establishments attracting higher than normal numbers of pedestrians;
- accident and other risk assessment; and
- character and traffic use of adjoining carriageway

4.4.3. Some Public Rights of Way (PROW) may be metalled and within or on the fringe of urban areas. To recognise users' requirements for consistency, these are considered for maintenance consistent with a similar footway and be incorporated in the footway hierarchy, irrespective of their designation.

- 4.4.4. Cycleways will be maintained and inspected on the same level as the linking footway hierarchy or the adjacent carriageway hierarchy. The highest hierarchy will always be chosen, as part of the risk-based approach.
- 4.4.5. The limited amount of cycleway asset not linked with a footway asset, or an adjacent carriageway asset will be categorised based on use within the Asset management database and maintained and/or inspected accordingly.

#### **4.5. Lifecycle Planning**

4.5.1. The objectives of lifecycle planning are stated by the UK Roads Liaison Group in the Highway Infrastructure Asset Management Guidance as:

- identify long term investment for highway infrastructure assets and develop an appropriate maintenance strategy;
- support decision making, the case for investing in maintenance activities and demonstrate the impact of different funding scenarios; and
- predict future performance of highway infrastructure assets for different levels of investment and different maintenance strategies

4.5.2. Lifecycle planning has been undertaken as part of the development of the [Highways Infrastructure Asset Management Strategy](#) and provides an outline of the long term plans and funding requirements for the key asset groups (carriageways, footways, structures, street lighting, signals and drainage) to maintain the required levels of service at the lowest whole life cost.

4.5.3. We have undertaken considerable investment in systems and surveys to collect and manage inventory and condition information on the carriageway and this data is utilised to:

- assess the long-term funding requirements for the maintenance of the network;
- assess priorities for required maintenance;
- develop the programme of maintenance schemes; and
- design detailed treatments for the H1 and H2 network

4.5.4. We have reviewed and evaluated various options to assist with lifecycle planning. Following detailed evaluation of options, we decided to build upon our existing systems and processes for deterioration and budget modelling which are also utilised for scheme identification, evaluation and prioritisation.

4.5.5. Building on past experience of in-house deterioration modelling and following the principles of the HMEP Toolkit and other lifecycle planning options, current and historic SCANNER and CVI condition data was used to develop local deterioration curves for all

carriageway classes. For more information, please go to [Volume 2, Section 6](#) or the Highways Infrastructure Asset Management Strategy. [Appendix C](#) of this Plan further highlights the factors that are considered for future maintenance, in line with the Code of Practice.

#### **4.6. Road/Rail Incursion**

- 4.6.1. We shall work with relevant organisations to identify road/rail interfaces where a risk of incursion of road and pedestrian traffic onto a railway is present.
- 4.6.2. We shall ensure that appropriate warning signs on the approaches to road/rail interfaces are placed and maintained such that they are clearly visible to highway users.

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## **5. Asset Management Database**

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### **5.1. Management Systems, Recording and Monitoring of Information**

- 5.1.1. All records and information that we maintain will be accurately and effectively managed.
- 5.1.2. Various Highways Guidance Documents (HGD's), detail the internal procedures that will be adhered to ensure the effective management of records relevant to highway maintenance.
- 5.1.3. The QMS (Quality Management System) has been implemented for the effective management of documents and records, which structures areas to complement the layout of our highways organisational structure and contains links to other areas, HGDs and Health and Safety Codes of Practice.
- 5.1.4. We have a legal duty to maintain an up-to-date asset register. This records service requests, complaints, reports or information from users and other third parties. These may require immediate action, special inspection, or influence future inspection or monitoring arrangements. The nature of response, including where no response is required, is recorded. All inspections record as a matter of course: time, weather conditions, any unusual circumstances of the inspection and the person conducting the inspection.
- 5.1.5. The inspection, assessment and recording regime is reviewed at intervals to consider:
  - changes in network characteristics and use;
  - completeness and effectiveness of data collected;
  - effectiveness of data analysis; and

- the need for changes to the inspection regime derived from risk assessment
- 5.1.6. The frequency of reviews should regard the extent and nature of changing circumstances. Other factors which will influence the frequency of review include the following:
- ensuring compliance with legal obligations;
  - measuring network serviceability and condition performance;
  - seeking continuous improvement; and
  - monitoring service delivery arrangements
- 5.1.7. Managing the safety and wide range of other risks associated with the delivery of highway infrastructure maintenance requires effective and co-ordinated information systems. The Confirm system includes all user contact information, records of inspection and condition and records of all maintenance activity.
- 5.1.8. The efficiency, accuracy and quality of information and records is crucial both to the effective management of the service.
- 5.1.9. For the purposes of robust asset management, we use the Confirm asset management system as a detailed highway asset register and database to establish a cost effective and adequate maintenance regime. The system is also used to record inventories of asset types for which we have responsibility.
- 5.1.10. As the Confirm system holds sensitive and personally identifiable information, a security minded approach, appropriate to the level of risk, has been adopted in relation to the capture, creation, processing, storage, distribution and use of relevant data and information in accordance with the Data Protection Act. This approach is covered by our [Information Assurance Policy](#).
- 5.1.11. All information obtained from inspections and surveys, together with the nature of response, including nil returns, shall be recorded consistently to facilitate analysis. Such analysis enables the data from inspections and surveys to be reviewed independently, but also in conjunction with other information to enable a holistic view to be taken of likely future maintenance need, asset condition and trends related to network characteristics and use.

## **5.2. Network Inventory**

- 5.2.1. The majority of our highways network assets are recorded in detail in Confirm. Confirm data is available using the corporate or directorate systems such as Location Centre and QGIS Geographical Information System (GIS). Tree information is stored in TreeWise and more detailed asset information for Traffic Signals is contained in IMTRAC.

5.2.2. Definitive maps and statements for Public Rights of Way (PROW) are kept, forming the legal record of the position and status of PROW.

### **5.3. Information Management**

5.3.1. We have recently developed a Data Management Strategy, which outlines our approach towards security, reviews and additional information management which keeps records of asset up-to-date and secure.

5.3.2. Records of construction and maintenance treatments are kept informing lifecycle plans. Information on mobile electronic devices used by highways officers in the field is used to support their decision making and reporting of asset condition and defects in real time.

5.3.3. We adhere in principle to a series of relevant Standards set out by the British Standards Institution. **BS 1192:2007, PAS 1192-2:2013, PAS 1192-3:2014, BS 1192-4:2014, PAS 1192-5:2015 and BS 8536-1:2015.**

5.3.4. As part of our Digital Transformation strategy, Technical Services Partnership (TSP) as part of our wider highways service, have chosen to embark on a strategy of better Information Management which includes working towards an ISO 19650 compliant approach to information management. Furthermore, this includes the processes, procedures and support in change that this requires.

5.3.5. ISO 19650 standards replace all previous information management standards such as PAS 1192 etc. Widely known as BIM or Building/Better Information Management adhering and complying with this suite of documentation allows for a more organised structure within the production of our data which will not only benefit the design and construction of our roads, highways and assets but also, and more importantly benefit the operation, maintenance and legacy of our asset data for the generations to come.

5.3.6. A key component of this is the provision of a Common Data Environment (CDE) for project and portfolio delivery. This includes the implementation of ProjectWise, a bespoke construction focused piece of software which helps facilitate compliance and includes managed workflows and an asset information lead solution.

5.3.7. A cloud based CDE also gives us the ability to handle the large datasets we see becoming more common in the delivery of our portfolio of work. This includes but is not limited to documents and video records such as Vaisala. Also, construction drawing and 3D models created by our teams utilising design tools such as Bentley OpenRoads.

5.3.8. Whilst this strategy starts within TSP the intention is to roll out this strategy to all aspect of data management within our highways service which could have a wider reach. For example, the benefits of one of our growth partners providing information



in a suitable format will allow the transfer of data and its utilisation to provide benefits to all those connected with the asset data.

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## 6. Risk-Based Approach

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### 6.1. Principles and Considerations

6.1.1. Management of highway infrastructure maintenance, including setting policy, strategy and levels of service, establishment of inspection and condition assessment regimes, determining priorities and programmes, procuring the service and the management of all associated data and information shall be undertaken against a clear understanding and assessment of the risks and consequences involved.

6.1.2. The principle of this Plan is that we have generated a risk-based approach in accordance with local needs (including safety), priorities and affordability. This is consistent with ISO 55000, which states that “asset management translates the organisation’s objectives into asset-related decisions, plans and activities, using a risk-based approach.”

6.1.3. We have adopted a risk-based approach and a risk management regime for all aspects of highway maintenance policy. This includes investment, setting levels of service, operations, including safety and service and condition inspections, and determining repair priorities and replacement programmes. This approach is undertaken against a clear and comprehensive understanding and assessment of the likelihood of asset failure and the consequences involved.

6.1.4. When determining the balance between structural, preventative and reactive maintenance, the principle that “prevention is better than cure” has been adopted.

### 6.2. Developing the Risk-Based Approach

6.2.1. Eight elements are considered key when developing a robust Risk-based Approach. These are evidenced below:

Elements	Our Evidence
Alignment with our corporate objectives, legislative requirements, and corporate approach to risk	We continue to adhere to our legal requirements outlined within the various acts shown within <a href="#">Appendix E</a> of this plan, whilst aligning our risk-based approach with its corporate Risk Management Strategy.

Elements	Our Evidence
An understanding of risk in a highways service	We have taken the necessary steps to fluidly integrate risk-elements within the key facets of the Highways service in terms of defect response, a risk-based inspection regime for all assets and its lifecycle planning based on prioritisation through data-analysis.
An understanding of the potential risks and their likely significance	The Asset Management Strategy, through the lifecycle planning process, demonstrates a clear understanding of the needs of our assets. Continual data-gathering, risk-based inspections and analysis provides us with an understanding of the risks for each asset, allowing the Highways service to make informed decisions.
An understanding of the various assets comprising the highway network	We maintain and update an inventory category through our Asset Management Database system which highlights the function, criticality, sensitivity, characteristics and use of the assets for which it is responsible.
The establishment of hierarchies and levels of service with appropriate funding	Hierarchies have been established and are outlined in <a href="#">Section 4 of this Volume</a> .
The establishment and subsequent implementation of agreed levels of service	The levels of service are outlined in our Highways Asset Management Policy. Its subsequent measures, funding regimes and lifecycle planning are outlined in the Highways Asset Management Strategy. Finally, the operational elements carrying out the levels of service and measures are explained within this HIAMP.
Competencies	Those involved in managing, developing and implementing the risk-based approach must meet our satisfaction and competence as the Highways Authority. Clear guidance and training is provided to employees including establishment of the risk-based approach itself and practical implementation. Training recognises the possibility of legal challenge to decisions. The Engineering Council, as the UK regulatory body for the engineering profession, sets and maintains standards of professional competence and ethics that govern the award and retention of the titles Chartered Engineers (CEng), Incorporated Engineers (IEng) and Engineering Technicians (EngTech).

Elements	Our Evidence
Regular evidence-based reviews.	We constantly review our data, systems, policies, hierarchies and inspection frequencies to strive towards further efficiencies through the implementation of the risk-based approach. This approach ranges from large-scale data reviews to individual hierarchy changes which will need to be evidenced and logged within the Asset Database.

### 6.3. Inspections and Surveys

6.3.1. Establishment of an effective regime of inspection, survey and recording is the most crucial component of highway infrastructure maintenance. The characteristics of this regime, including types and frequency of inspection, items to be recorded and nature of response have been defined following an assessment of the relative risks associated with potential circumstances of location, agreed level of service and condition. These are set in the context of the [Highways Asset Management Strategy](#).

6.3.2. The inspection, survey and recording regime provides the basic information for addressing the core objectives of highway maintenance, namely:

- network safety;
- network serviceability; and
- network sustainability

6.3.3. It can provide the basic condition data for the development of maintenance programmes.

6.3.4. Every volume within this Plan will outline its inspection regime for those particular assets, with all various categories of inspection discussed and a risk-based approach to these inspections outlined. We undertake safety inspections for our various asset groups using a risk-based approach wherever reasonably practicable.

### 6.4. Defect Reporting and Repair

6.4.1. All defects observed during safety inspections that provide a risk as defined throughout this document to users are recorded and the level of response determined on the basis of risk assessment. The degree of deficiency in highway elements is crucial in determining the nature and speed of response.

6.4.2. Defects which are considered to require urgent attention shall be corrected or made safe at the time of the inspection, if reasonably practicable. In this context, making safe may constitute displaying warning notices, coning off or fencing off to protect the

public from the defect. If it is not possible to correct or make safe the defect at the time of inspection, repairs of a permanent or temporary nature shall be carried out as soon as possible. The maximum response times for making safe defects are set out in detail in [Appendix B](#), [Appendix C](#) and [Appendix D](#) of this plan.

- 6.4.3. Defects that do not represent an immediate or imminent hazard or risk of short-term structural deterioration may have future safety implications, although of far less significance than those which are considered to require urgent attention. They are more likely to have serviceability or sustainability implications. If repairs are to be undertaken, these are likely to be within a planned programme of works with their priority determined by risk assessment. Access requirements, other works on the network, traffic levels, and the desirability of minimising traffic management, shall also be considered as part of the response.
- 6.4.4. We have changed our approach to the reactive service by empowering the contractor to carry out self-identification and defect repair for faults that are at intervention level in accordance with [Appendix B](#). The change in approach has been introduced so that defects that have formed between safety inspection and repair will be rectified at the same time as the initial fault. Taking this approach ensures that we have introduced an additional level of defect identification and rectification.
- potholes and surface defects;
  - road markings;
  - signs; and
  - street furniture

## **6.5. Reporting by the Public**

- 6.5.1. Feedback from members of the public is an increasing source of data on the condition of all aspects of the highway network, with the use of smartphones and other personal mobile technology providing details such as location, time and imagery.
- 6.5.2. This data is integrated with the prioritisation calculations we undertake for the carriageway and footway forward programmes, alongside dedicated inspection and survey data as outlined in this document.
- 6.5.3. We now capture this information through; Fix My Street, our Website, our Customer Service Centre (CSC) and general enquiry forms. These perceived faults on the network from the public are automatically logged within the Confirm Asset Management System, where they will be investigated by a designated highways officer or out of hours duty officer.

- 6.5.4. Members of the public can also report other highway issues, such as highway enforcement e.g., obstruction in the highway through the CSC.

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## **7. Financial Management, Priorities and Programming**

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### **7.1. Financing of Highway Maintenance**

- 7.1.1. Financial constraints, lifecycle planning, making the case for investment and investment strategy are all dealt with in the [Highways Infrastructure Asset Management Strategy](#).

### **7.2. Priorities and Programming**

- 7.2.1. Our highway network will be viewed as a whole when developing priorities, rather than as a series of asset groups such as carriageways, footways, structures, lighting, drainage etc.
- 7.2.2. We shall seek to share and coordinate short- and long-term programmes of work with others undertaking works on the highway for several years in advance. A prioritised forward works programme for a rolling period of three to five years has been developed and is updated regularly. For more information, please go the programming section of each volume.

# Volume 2 - Highways

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## 1. Introduction

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### 1.1. Context of Volume 2

1.1.1. Volume 2 of the HIAMP covers specific issues and themes regarding highways themselves, and includes the following asset types:

- carriageways;
- footways;
- public rights of way;
- cycleways;
- highway drainage systems;
- embankments and cuttings;
- landscaped areas and trees;
- fences and barriers;
- traffic signs and bollards; and
- road markings and studs.

1.1.2. The overarching principles and common themes of maintaining highway infrastructure are covered within [Volume 1](#). Asset specific guidance for structures and lighting are covered in [Volume 3](#) and [Volume 4](#), respectively.

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## 2. Legal Framework

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### 2.1. Statutory Obligations

2.1.1. General duties and powers are dealt with in [Volume 1](#) of the plan. This section contains information on duties and powers specifically related to highways.

### 2.2. Highway Specific Legal Considerations

2.2.1. The Highways Act 1980 sets out the main duties of Highway Authorities in England and Wales. Section 41 imposes a duty to maintain highways maintainable at public expense.

2.2.2. Section 58 provides for a defence against action relating to alleged failure to maintain on grounds that we have taken such care as in all the circumstances was reasonably

required to secure that the part of the highway in question was not dangerous for traffic.

2.2.3. Additional Acts relevant to the HIAMP are outlined in [Appendix E](#) of this Plan.

### **2.3. Winter Service**

2.3.1. Details of the Winter Service and its legal requirements that we undertake are outlined in a separate document named the [Winter Service Plan](#), approved annually by Members. This document should be read as an annex to the HIAMP.

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## **3. Asset Management Information**

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### **3.1. Principles and Considerations**

3.1.1. Asset data management is an essential part of the [Highways Infrastructure Asset Management Strategy](#) and relies on a specific Asset Management System to enable this. A highway asset management system is essential to deliver an effective and efficient approach to asset management. We currently use the Confirm Asset Management System to cover all of the asset types outlined in Section 1.1.1 of this volume, with the actual data collected aligning to our Highways Infrastructure Asset Management Strategy.

3.1.2. The UKPMS (National standard for Pavement System) accredited Confirm Asset Management system consists of a specific asset register and database, outlining details regarding our carriageways, footways, cycleways, structures, street lights, drainage assets, traffic signals and any additional street furniture that is our responsibility to maintain.

3.1.3. The Confirm Asset Management System enables us to undertake multiple activities such as:

- loading network, inventory and condition data, including data collected by:
  - Visual surveys (CVI);
  - SCANNER and TRACS Type Surveys (TTS);
  - Footway Network Surveys (FNS);
  - SCRIM; and
  - Deflectograph
- data processing;
- condition reporting; and

- financial reporting to support asset management, including:
  - Inventory reports;
  - Accumulated and annual depreciation of carriageways; and
  - Supporting information for footways, cycletracks and paved verges

3.1.4. HMEP (Highways Maintenance Efficiency Programme) is a sector-led transformation programme. It is designed to maximise returns from highways investment and help to improve efficiency and effectiveness of the local highways sector which it is aimed at. HMEP has developed a series of products to inform highways authorities of examples of best practice and recommendations which should lead to an improved highway maintenance service and better value for money for taxpayers. We use these tools of Best Practice to shape our organisation and our methods for delivering the service.

## 4. Asset Condition

### 4.1. Introduction

4.1.1. This section deals with asset condition for each element of the network and its contribution to safety, serviceability and sustainability. For more information, please go to [Appendix A](#) of this Plan.

4.1.2. This section does not deal with the Safety and Service Inspections undertaken by the Highways Service. We undertake Condition Inspections and Safety and Service Inspections separately. More information on the Safety and Service Inspections can be found in [Section 5 of this Volume](#).

### 4.2. Principles and Considerations

4.2.1. Each element of the network can have different condition requirements, a minimum one to satisfy the need for safety, and higher ones, designed to meet local requirements for serviceability or sustainability, in line with the [Highways Infrastructure Asset Management Strategy](#). A good Asset Management approach will entail both reactive and proactive measures designed to maintain the viability of the network. Our Reactive service, Programming and various safety, service and conditions inspections all serve as an accurate method to maintain a record of the condition of the asset and enables us to accurately plan the best course of action each time.

4.2.2. It is important to recognise that all information recorded, even if not intended for network safety purposes, may have consequential implications for safety.



4.2.3. As outlined in Volume 1, Section 4.1.4, the level of customer service is generally more relevant when applied to the whole of the network and it is therefore not dealt with by this plan under each of the individual elements in the following sections.

### **4.3. Condition Surveys – Carriageways, Footways and Cycleways**

4.3.1. The most significant financial investments in highway maintenance will be in repairing, reconditioning and reconstructing carriageways, footways and cycleways. Condition surveys identify the current condition of the network, and from this condition both long-term and short-term maintenance funding decisions can be made. Repeatable condition surveys allow trend analysis to be used to confirm the original decisions or allow for changes as a result of the changing network condition and inform lifecycle planning.

4.3.2. Frequencies of carriageway, footway and cycleway condition inspections are derived using the principles outlined in [Volume 1, Section 4](#) of this plan (categorising the network into an appropriate hierarchy) and [Section 6](#) (covering risk-based approach for inspections).

4.3.3. There are a number of types of survey, each providing information from a differing perspective, and which in combination can provide a comprehensive picture of the condition of the asset. We undertake a comprehensive regime of carriageway network level surveys at the following scope and frequencies to assist with:

- maintenance scheme identification and planning;
- performance monitoring; and
- detailed scheme design

4.3.4. The Highway Asset Data Team is responsible for publishing map layers for the Local Highways Teams showing the results of SCANNER, CVI, Deflectograph, and FNS surveys to assist them to target and prioritise maintenance in their areas.

Survey method	Scope	Inspection Frequency
SCANNER (Surface Condition Assessment of the National Network of Roads)	Traffic speed surveys that collect data on transverse and longitudinal profiles, texture and cracking of carriageways. SCANNER surveys are mandatory requirement for reporting of Data Topic 130-01 (formerly NI 168/ BVPI 223), "Condition of principal roads" and Data Topic 130-02 (formerly NI 169/BVPI 224a) "Condition of non-principal classified roads". These surveys are undertaken by a specialist vehicle at traffic speed. The information is both reliable and repeatable giving a consistent survey.	All of the MRN, Hierarchy 1, 2 and 3 network in a single direction each year.  50% hierarchy 4 network in one direction each year.
CVI (Coarse Visual Inspection)	CVI is carried out from a slow-moving vehicle. CVI survey data is collected using UKPMS accredited data capture software. Inspectors are trained in house at Lincs Laboratory in accordance with the UKPMS Visual Survey Manual. All inspectors are accredited.	All of the MRN, Hierarchy 1,2 and 3 network in a single direction each year.  50% Hierarchy 4 network in one direction each year.  25% of the Unclassified Network each year
SCRIM (Sideway-force Coefficient Routine Investigation Machine)	SCRIM results are used to identify lengths of carriageway with poor skidding resistance. SCRIM surveys are carried out in accordance with national good practice.	33% of the MRN, Hierarchy 1 and 2 Network each year
Deflectograph (Structural Condition Surveys)	These surveys measure the structural integrity of the carriageway. The results provide an estimate of its residual life and are a crucial component when assessing structural maintenance requirements.	20% of the MRN, Hierarchy 1 and 2 Network each year
FNS (Footway Network Surveys)	The condition of footways is monitored by means of FNS (Footway Network Surveys)	20% of the Network each year

4.3.5. SCANNER surveys process condition information and were introduced with the aim of providing both reliable and repeatable information, for the assessment of carriageway condition. They can support national requirements for reporting where applicable.

- 4.3.6. CVI surveys are a fast, cost-effective survey that enables authorities to cover large parts of their road network on a regular basis. Rather than recording detailed measurements of individual defects, the survey identifies and categorises lengths of features having generally consistent defectiveness.
- 4.3.7. Network surveys such as SCANNER and CVI provide regular whole network coverage and are used to target more detailed investigations of provisional treatments, using more detailed project level surveys.
- 4.3.8. The maintenance of adequate levels of skidding resistance on carriageways, footways and cycleways is an important aspect of highway maintenance, and one that contributes significantly to network safety, particularly for cyclists, motorcyclists and equestrians.
- 4.3.9. We undertake routine skid resistance testing on the Hierarchy MRN, 1 and 2 Network using the SCRIM machine. Surveys are undertaken on a three year cycle using the single survey method with benchmark sites. Our Skid Resistance Strategy is published as part of the Asset Management Framework and available on our website.
- 4.3.10. The Deflectograph is a tool to indicate the structural condition of the whole carriageway, particularly on local authority roads which are not deemed long-life. A long-life carriageway is defined as a carriageway with over 300mm of bituminous materials and a low deflection.
- 4.3.11. The Footway Network Survey (FNS) is intended to provide a cost effective, efficient and consistent approach to footway surveys, based on a linear basis. The survey is carried out by a single surveyor walking along the footway, referenced to length within a UKPMS section.
- 4.3.12. FNS surveys record defects in four categories:
- as new;
  - aesthetically impaired;
  - functionally impaired; and
  - structurally impaired
- 4.3.13. With trees on the footway, we take into account local and environmental factors.
- 4.3.14. Securing continuous improvement in the safety and serviceability of cycleways, in particular network integrity, is a necessary component for encouraging cycling as an alternative to the car.

4.3.15. Cycleways are included within the FNS asset database to be condition inspected at the same intervals. This only applies for combined footway/cycleway assets, which signifies the majority of the cycleway network.

4.3.16. Specific cycle track provision within the county has increased significantly since the implementation of the local transport plan through the community travel zone initiative and rural priority initiative. Therefore, the majority of cycling provision is of relatively new stock and maintenance is yet to become a significant issue. However, it is recognised that maintenance standards for these facilities will be established quickly in order to provide guidance to local highways staff and to ascertain the financial commitment, in terms of the future maintenance costs.

#### **4.4. Condition of Public Rights of Way**

4.4.1. The condition of Public Rights of Way (PROW) can contribute to the core objectives and to the broader quality of life objectives associated with leisure and recreation.

4.4.2. The requirements for PROW are determined as part of our Countryside Access and Rights of Way Improvement Plan (ROWIP), in consultation with the Local Access Forum established by the Countryside and Rights of Way Act 2000. The document is currently undergoing revision.

4.4.3. The ROWIP has been implemented under four themes, each with a strategic aim and supporting our wider social objectives including the aims of the LTP:

- sustainable transport - strategic aim to increase the use of the network for sustainable transport and utility trips;
- health and well-being - strategic aim to make it easier for people to incorporate exercise into their daily lives and lead healthier lifestyles;
- rural economy and tourism - strategic aim to support local businesses and tourism through access improvements; and
- social issues - strategic aim to enable more people to enjoy walking and riding

4.4.4. We are currently reviewing how asset data is collected and managed and in due course an asset management plan focussing on PROW will be published.

4.4.5. Countryside follows an area-based inspection regime (for more information, please go to [Section 5.9](#) of this Volume). It further prioritises schemes and individual pieces of work representing a risk to Health and Safety, using the following methods:

- Priority 1 – Routes that we actively promote (e.g., Viking Way, Bridle Trails, Recreational Walk Routes).

- Priority 2 – Routes that are known to be well used, predominantly close to settlements or routes promoted by other bodies and we specifically endorse.
- Priority 3 – All other available routes.
- Priority 4 – Routes that could only be made available by the significant investment of capital resources or requiring extensive legal work to resolve alignments and obstructions.

Priority	Rights of Way Act Infringements (Ploughing and Cropping)	Grass Cutting and Vegetation Clearance (Subject to cyclical programme)	Path Furniture Repair and Minor Obstructions	New or Replacement Bridges	Essential Surfacing Works
1	Three Months	Two Months	Three Months	Subject to size, location and resource availability	Works Subject to Finance and Availability of Workforce
2	Four Months	Two Months	Six Months	Subject to size, location and resource availability	Works Subject to Finance and Availability of Workforce
3	Works Subject to Finance and Availability of Workforce	Works Subject to Finance and Availability of Workforce	Works Subject to Finance and Availability of Workforce	Subject to size, location and resource availability	Works Subject to Finance and Availability of Workforce
4	Works only to be undertaken when major issues are resolved.	Works only to be undertaken when major issues are resolved.	Works only to be undertaken when major issues are resolved.	Works only to be undertaken when major issues are resolved.	Works only to be undertaken when major issues are resolved.

**Any report which is a Health and Safety consideration will be dealt with in a timescale dependent on an appropriate risk analysis**

4.4.6. These timescales are for guidance only and there may be times when it may not be possible to meet these service standards. In such instances we will inform respondents as to the reasons why and what action is being taken. One such example could be where a request is made that vegetation and hedging needs clearing from the line of a right of way. Bearing in mind our obligations concerning protecting biodiversity, stemming from the Natural Environment and Rural Communities Act 2006 and various other wildlife legislation, it may be prudent to defer works until a more appropriate time providing that the route is not wholly obstructed.

#### **4.5. Condition of Highway Drainage Systems**

4.5.1. We are responsible for the maintenance of highway drains i.e., drains which only carry water discharged from footways, access crossings, highway verges and carriageways. Drains which carry other water including foul water may be sewers or combined drains and are the responsibility of the water authority (Anglian Water or Severn Trent Water) or the local District Council. Roadside gullies that we maintain are usually cleansed on a risk based targeted approach.

4.5.2. Highway drainage condition standards fall into these main categories:

- grips and ditches - can be obstructed by growth of vegetation or damaged by traffic and animals. grips and highway authority ditches will be cleared of vegetation and dug out when required. grip clearing will be commenced after the last grass cut and the programme completed if possible before the worse of the winter weather;
- gullies and kerb offlets will be cleansed on a risk based targeted approach whilst catch-pits will be cleansed once per year on a cyclic basis. in most cases the responsibility for maintenance of roadside ditches will rest with the adjoining landowner; and
- piped drainage – includes a wide variety of conduits and filter drains, which may be susceptible to siltation or blockage. piped drainage, soakaways and associated systems will be checked and flushed if necessary, during service inspections and cleared when required

4.5.3. More information on culverts can be found in [Volume 3](#) of this plan.

4.5.4. Material arising from all road drainage emptying and cleansing operations has potential implications for pollution and shall be disposed of correctly in accordance with Environment Agency, or equivalent authority, requirements.

4.5.5. Where despite effective maintenance operations, flooding of the highway occurs, with implications for safety or serviceability, relevant warning signs will be placed in position as quickly as possible, and users advised through local media. The cause of the flooding shall be determined and addressed as appropriate.

- 4.5.6. The highway may flood if the surrounding land is in flood and there are limitations to the action that can be reasonably taken. If it is subsequently determined that the flooding is attributable to deficiencies in infrastructure or the maintenance regime, given the nature of the weather conditions under which it occurred, then action to permanently relieve the problem shall be considered which may involve consultation with other public bodies and third parties. If the event is attributable to the actions of a third party, the matter shall be taken up with them at the earliest opportunity.
- 4.5.7. Ironwork comprising covers, gratings, frames and boxes set in carriageways, footways and cycleways has the potential to compromise safety and serviceability, and in certain cases cause noise and disturbance to local residents. Responsibility for defective ironwork may lie with Utilities.
- 4.5.8. Although responsibility for defective ironwork may lie with Utilities, defects identified during inspection or from users will therefore be formally notified to the Utility with a follow up procedure to ensure that dangerous defects are remedied within the prescribed timescale.
- 4.5.9. The standards outlined below can be varied where necessary to deal with problem locations where more frequent treatment may be required.

<b>Drainage</b>	<b>Frequency of Cleanse</b>
Gullies	Risk based targeted cleanse on either a biannually, annually or biennially basis
Catch-pits	Annual
Grips	When required
Offlets	Risk based targeted cleanse on either a biannually, annually or biennially basis

#### **4.6. Condition of Embankments and Cuttings**

- 4.6.1. Slips and rock-falls happen rarely. However, we have records of suspect locations and have established an inspection and maintenance regime based on a local risk assessments. Our scheme is based on the Highways Agency's inspection regime which inspects cuttings and embankments over five metres in height and lower ones which have been identified as suspect. The embankments and cuttings which have been identified as suspect will be inspected once a year. All inspections will be undertaken by a qualified geotechnical engineer or geologist with experience of slope instability.
- 4.6.2. The following standards are used for Embankments and Cuttings (Condition Inspections):

- I. inspections to be based on specialist geotechnical advice;
  - II. inspections to take place during winter months and after periods of heavy rain whenever possible. this is the worst time of year for instability, the easiest for inspection and there is little foliage to hide evidence;
  - III. we keep a record of locations prone to rock-falls and slips;
  - IV. these locations and others identified by local highways managers as being suspect are inspected once a year; and
  - V. all inspections will be undertaken by a qualified geotechnical engineer or geologist with experience of slope stability
- 4.6.3. The probability of failure will be affected by soil conditions and drainage. The impact of embankment or cutting failure will generally be high in all situations, but particularly so on important high-speed links, or where dwellings could be affected. In such circumstances, the condition of embankments and cuttings shall be subject to a robust regime of inspection.
- 4.6.4. Slips and rock-falls from embankments and cuttings are relatively infrequent but the frequency and severity of such events may be affected by climatic change. We have records of relevant locations and have established an inspection and maintenance regime based on a local risk assessment.

#### **4.7. Condition of Landscape Areas and Trees**

- 4.7.1. We undertake regular safety surveys of our highway network to assess the risks posed by trees. This section defines the terms of reference for the safety survey.
- 4.7.2. All established trees within the highway are visually inspected as part of condition surveys to identify obvious potential hazards. Surface damage to carriageways, footways and cycleways, associated with root growth will be recorded as part of Safety and Service Inspections for those elements. More information on those inspections can be found in [Section 5 of this Volume](#).
- 4.7.3. Trees on or adjacent to the highway are surveyed using tree management software, trees are only recorded if they meet the following criteria, i.e. they have a stem diameter greater than 300mm, are planted within the highway limits or are within 25m of the highway (private trees) if appropriate the tree is assessed with a system called Quantified Tree Risk Assessment (QTRA). QTRA is a method of quantifying risk associated with tree failure and requires three variables in order to make the assessment.
- size of part likely to fail;
  - likelihood of failure; and



- what will be hit (target)
- 4.7.4. Our Officers will QTRA score any privately owned within falling distance of the highway that has an identified defect in the trees condition. An NVQ level 5+ inspector will carry out the assessment.
  - 4.7.5. The Health and Safety Executive (HSE) states that risk ratings above 1/10,000 are a 'tolerable' level of risk that can be imposed on the public for the wider good, where the risk is As Low As Reasonably Practicable (ALARP).
  - 4.7.6. We follow the same process for the whole network. However, where the risk score from individual trees is above 1:10,000 the emphasis will be on the collection of highway trees as assets. The potential for private trees to fail onto these routes is the same, however the risk ratings and subsequently the target is expected to be reduced due to infrequent use of these routes (i.e., reduced traffic flows than H1a, H1 and H2 routes).
  - 4.7.7. Highway trees identified for safety work through the survey will be dealt with through the term contract. For all of our other trees, a safety report will be sent to the owning department for their attention and action. Private Trees with risk ratings of 1:1 – 1:10,000 will be enforced through letters and ultimately S. 154 notices where appropriate.
  - 4.7.8. The obstruction of street lighting and traffic signs can be a major safety risk to users. A process of inspection and investigation has been put in place, which is detailed in [Volume 3](#) of this plan. Trees and other foliage shall be trimmed back to allow the lighting to function properly and the signs to be legible, while maintaining the shape of the tree wherever possible. Any obstructions involving overgrown foliage can be recorded as a defect during routine night patrols, as enquiries from our officers or members of the public, or as a follow up reported by operatives attending repair works. More details can be found in [Volume 4](#) of this plan.
  - 4.7.9. Significant pruning or felling of trees can be the subject of significant local concern and will only be done with specialist advice and support. The relevant District Council will be informed, and proposed work discussed prior to work on the highway trees with TPOs and in conservation areas.
  - 4.7.10. In rural areas work on highway trees will be mainly reactive and limited, other than for safety reasons. Some routine maintenance will be necessary from time to time to maintain the condition of the trees. This will be a matter for local consideration having regard to users and community views.

- 4.7.11. In urban areas trees have a significant impact on the local environment but can cause damage to highways and property if not properly managed. Our Arboricultural team co-ordinate a proactive management programme including regular inspections.
- 4.7.12. The maintenance of hedges ensures that visibility sight lines and road signs are not obscured this work will mainly be the responsibility of adjoining landowners. Any action taken is in accordance with the requirements of the European Birds Directive (2009) and the Wildlife and Countryside Act (1981), which includes protection for birds, their nests and other relevant legislation. Significant nature conservation benefits will result from this practice. Any trimming is, as far as possible, done in late winter, to avoid the bird-nesting season and to allow birds and mammals the maximum opportunity to take advantage of any fruits or seed present.
- 4.7.13. Any proposed tree planting shall conform to the maxim 'The right tree in the right place' and consider proximity to existing or planned street lighting, to minimise the risk of shrouding the street lights, or casting unnecessary shadows on the highway.

#### **4.8. Condition of Verges**

##### **Grass Cutting**

- 4.8.1. Vegetation on highway verges should not restrict visibility at junctions, access points and bends. Sight lines and minimum stopping distance will be kept clear and signs, lights, and markers posts will not be obstructed.
- 4.8.2. Good practice suggests that verge (flail) cuts are undertaken to control the extent of self-set bushes and tree growth. The exception to the above is where Roadside Nature Reserves are established. Lincolnshire has 65 Roadside Nature Reserves, some of which are Sites of Specific Scientific Interests where the flora and fauna are of a particular conservation value. Under an agreement with the Lincolnshire Wildlife Trust, the Trust is responsible for all environmental maintenance at these sites, apart from safety mowing.
- 4.8.3. Edge maintenance or “siding” of carriageways, footways and cycleway is occasionally necessary to prevent encroachment of grass and reduction of width. This work will be carried out infrequently, preferably during the autumn. On un-kerbed roads, siding will be carried out in advance of footway surface treatment, where necessary.
- 4.8.4. This plan provides for flexibility in applying judgement in urban and rural areas, and this shall take account of the character of the area rather than be determined solely by speed limit considerations.

##### **Weed Treatment**

- 4.8.5. The growth of weeds in footways and cycleways, hardened verges, central reserves filter drains and along kerb lines may cause structural damage, drainage issues and the general perception of such growth is that it is untidy. In some circumstances weeds have been considered to have implications for pedestrian safety. Weed growth is also a source of significant community interest and service requests. Weed treatment is therefore undertaken according to traffic and pedestrian usage and to a level of usage that takes account of local concerns.
- 4.8.6. We carry out total weed control operations on areas of paving and hard standings, kerb and channels, back of footway, base of walls and around street furniture. Weed spraying covers a total of 4600 km of kerbs and is undertaken bi-annually.
- 4.8.7. Specialist environmental guidance is adhered to regarding the materials used for weed spraying and the frequency of application, with regards to levels of usage. Noxious weeds shall be dealt with on an ad hoc basis. All weed spraying is carried out in accordance with the Control of Pesticides Regulations 1986. Only approved pesticides are used, these are chemicals listed in the Plant Protection Products (Sustainable Use Regulations) 2012.
- 4.8.8. The most common specified weed under the Weeds Act 1959 is Common Ragwort. Section 14 of the Wildlife and Countryside Protection Act 1981 makes it an offence, liable to a fine, to plant or otherwise cause to grow in the wild, certain specified weeds. It may be a defence to prove that all reasonable steps were taken to prevent the plants growing in the wild. Specified weeds under the Wildlife and Countryside Act 1981 are Giant Hogweed; Himalayan Balsam and Japanese Knotweed.
- 4.8.9. Our policy is to carry out selective weed control operations on rural highway verges to control the growth of injurious, noxious and controlled weeds including other invasive vegetation. It is important to note that The Noxious Weeds Act 1959 does not seek to eradicate ragwort; but only seeks to control it where it poses a high risk to grazing animals, feed and forage production and we must take action to control the spread of ragwort.

Verges	Treatment
Grass Cutting	Safety (Rural) Hierarchy 1 – 3 cuts Safety (Rural) Hierarchy 2 and 3 – 3 cuts Safety Hierarchy 4 and 5 – 3 cuts
Weed Treatment	Two treatments a year

#### 4.9. Condition of Non-illuminated Traffic Signs and Bollards

- 4.9.1. The impact of failure will be greater for regulatory signs than for warning signs, the impact of which will be greater than direction signs. The probability of sign failure is generally low, although it will be higher in areas subject to vandalism. However, the probability of sign illegibility, defectiveness or clutter is much higher.
- 4.9.2. We carry out both general route reviews and specified whole route reviews, reviewing all sign assets on a particular route or area with regard to legality, condition and ownership.
- 4.9.3. It is good practice to review damaged or missing signs before replacement to ensure there is still a requirement for the sign and the design is still lawful.
- 4.9.4. We are responsible for ensuring that any safety issues with regards to any signs are resolved in line with our risk-based response times to reactive maintenance.
- 4.9.5. Sign cleaning will be undertaken in accordance with schedules and frequencies defined in the Highway Works Term Contract. This entails once a year for the signs on the MRN, Hierarchy 1 and Hierarchy 2 carriageway network and four times a year for bollards. All others as required.
- 4.9.6. Although in many circumstances illuminated signs are essential, the use of high-reflectivity, non-illuminated signs can bring benefits in terms of sustainability. This shall be a consideration where legally permitted, both for new signs and on replacement, and shall also be considered during any network integrity inspections. Lincolnshire Road Safety Partnership (LRSP) must be consulted with when existing lit signs are identified for possible de-illumination and removal, or replacement with a reflective sign assembly. An audit trail of conversations with LRSP regarding the removal of illumination from existing signs must be maintained and appropriately filed.
- 4.9.7. Heritage signs and milestones will be refurbished or will be replaced with same or similar whenever possible. This may be subject to third party funding depending on location and circumstances.

Condition Inspection	Frequency
General Condition	Part of the General Highways Inspection
Cleaning	Once a year for strategic road network (MRN-H1-H2 and four times a year for bollards. All others as required. Note: Any faults will be reported including any within 20m on each side of the road

Condition Inspection	Frequency
Replacement and repair of damaged signs and bollards	Respond according to the degree of danger. In extreme cases this would be within two hours.

#### 4.10. Condition of Road Markings and Studs

4.10.1. The general condition of road markings and studs will be inspected during the annual condition survey by divisional staff. An annual night-time survey to check reflectivity will be undertaken on Hierarchy 1 and 2 roads and some designated hierarchy 3 roads. This survey will be undertaken between November and February and will include non-illuminated bollards.

4.10.2. Any anomalous results from the above surveys will be referred to Lincolnshire Laboratory where consideration will be given to further investigation. The results of the surveys will be maintained on a Database.

4.10.3. Road marking will be prioritised for renewal based on the results of the condition inspections.

4.10.4. All mandatory road markings existing before resurfacing, patching or surface dressing shall be replaced as soon as is reasonably practical:

- stop and give way markings shall be replaced within seven days;
- other mandatory lines within 14 days; and
- all other markings and road studs within 28 days of completion of works

4.10.5. At all times when markings or studs are removed “No Road Marking” boards shall be displayed until all markings have been replaced. In addition, where “double line” systems have been removed “No Overtaking” boards shall be displayed.

4.10.6. There will be a preference toward bulk changes of road studs on all other routes prioritised in accordance with the condition inspection results. Bulk changes will reflect the type of use of a particular route and will start and finish at salient points on the route (e.g., major junctions). Displaced road studs lying on the carriageway, hard shoulders or lay-bys, and loose studs if considered to be a hazard, are removed immediately if reasonably practicable.

4.10.7. A programme of works regarding markings and road studs will be developed, based on needs and priorities. This demonstrates a move towards more programmed and routine maintenance of road studs and markings.

#### 4.11. Condition of Traffic Signals, Pedestrian and Cycle Crossings

4.11.1. An annual inspection will be carried out and shall include the following items:

- signal lenses will be cleaned;
- inspections of the physical condition of the controller and auxiliary equipment cabinets and other site hardware (poles, signal heads etc); and
- earth testing

4.11.2. Full inspections for electrical safety will be carried out at intervals of six years. Guidance on aspects to be inspected and on defect criteria is given in TD 24/86.

4.11.3. The priority objective is to provide and maintain all traffic signals, controlled pedestrian and cycle crossings to a high standard to ensure the safety of all road users and to ensure the efficient operation of the highway network.

4.11.4. The following frequencies will be used:

Condition Inspection	Method and Frequency
Scouting for illumination	Covered by Urban Traffic Control and Remote Monitoring Systems
HI Lamp changing	Bulk change every 12 months
Internal inspections and cleaning	At least annually or additionally when required
Checking of phasing	When a fault is suspected
Checking of alignment	Annually or when a fault is suspected
Mechanism	Annually or when a fault is suspected
External Cleansing	Every 12 months

#### 4.12. User and Community Response

4.12.1. User and community responses can make a significant indirect contribution both to safety and serviceability by ensuring that service requests and complaints are dealt with appropriately and converted into actions. Adequate provision of information will also enable users to obtain better serviceability from the network. We engage with the NHT Public Satisfaction Survey and have robust options for dealing with service requests and complaints involving a dedicated Customer Service Centre and FixMyStreet for online reporting.

- 4.12.2. To provide clarity, we have adopted dimensional definitions for potholes based on best practice as part of its maintenance policy. Our reactive maintenance works based on fixed response times, including those put forward by members of the public, outlined in [Appendix B](#) of this plan.

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## 5. Safety and Service Inspections

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### 5.1. Introduction

- 5.1.1. The general principles to be applied to inspections, assessment and recording are outlined in [Volume 1, Section 5](#) of this plan. This section covers guidance for the Safety and Service inspections relating to highways assets. This section does not include details revolving around condition inspections, which can be found in [Section 4 of this Volume](#).
- 5.1.2. In order to satisfy the statutory duties set out in the Highways Act 1980, we have put in place inspections to assess the highway network. The collection of inspection results is managed using Confirm Enterprise Infrastructure Management System using portable tablet computers and handheld devices with global positioning system (GPS).
- 5.1.3. We undertake Safety and Service inspections to accurately monitor the carriageway and footway network. The inspection schedules are route and area based. Results are uploaded and downloaded within the Confirm Enterprise Infrastructure Management System and stored within the asset management system.

### 5.2. Safety Inspections – General

- 5.2.1. Safety Inspections are designed to identify defects that are likely to create a safety issue to users of the network. Such defects will be made safe as soon as reasonably practicable, and in any case within the timescales detailed in [Appendix B](#) of this Plan. of this Plan.
- 5.2.2. We have determined the most appropriate way to undertake inspections in order to clearly observe any defects for each asset type. This may include inspections from a slow-moving vehicle or, in busy urban areas, and particularly when inspecting footways, it may be difficult to obtain the necessary level of accuracy from vehicle-based inspections and walking is used.
- 5.2.3. Frequencies of safety inspections are derived using the principles outlined in [Volume 1, Section 4](#) of this plan (categorising the network into an appropriate hierarchy) and [Section 6](#) (covering risk-based approach for inspections).
- 5.2.4. Routine Local Highway Inspections do not cover the following:

- condition inspections such as specialist engineering inspections (including Coarse Visual Inspection and Detailed Visual Inspection), machine inspections (e.g., SCRIM and deflectograph) and the Footway Network Survey;
- streetworks inspections (under the New Roads and Street Works Act 1991);
- structures, safety barriers and traffic signals inspections;
- development control inspections (section 278 and section 36 inspections);
- street lighting (including illuminated signs) inspections; and
- ad-hoc inspections in response to specific problems or complaints.

5.2.5. However, defects resulting from any of the above should be reported and dealt with under the appropriate procedure.

5.2.6. Service Inspections are designed primarily to establish programmes of routine maintenance tasks which, although they may be essential work, do not require urgent execution.

### 5.3. Highway Network Hierarchy

5.3.1. Each part of the highway network is assigned a hierarchy which relates to its importance for transportation and usage. Footway hierarchies are different from carriageway hierarchies. Therefore, most roads have a different hierarchy classification for the carriageway and footway. Public Rights of Way within built up areas that have been identified as having a metalled surface are categorised as link footways and are assigned the appropriate hierarchy and inspected as an integral part of the network.

5.3.2. The detailed definitions of each hierarchy classification are found within [Volume 1, Section 4](#).

### 5.4. Inspection Frequencies

5.4.1. The inspection frequencies for Safety and Service inspections are as follows:

Carriageway	Footway	Inspections per annum
MRN, hierarchy 1	Hierarchy 1	12
Hierarchy 2	Hierarchy 2	4
Hierarchy 3	Hierarchy 3 and slabbed/modular 4	4
Hierarchy 4, 5 and 6	Hierarchy 4 (excluding slabbed/modular)	1



Carriageway	Footway	Inspections per annum
Hierarchy 7	/	Once every three years
Hierarchy 8	/	Once every five years (unmetalled carriageways)

Cycleways	Inspection requirements
Cycle Lane	Include with adjacent carriageway inspections
Cycle Track	As per Type 4 Footway
Shared Cycle/Pedestrian	Include with the adjacent footway inspections

- 5.4.2. For reasons of route efficiency hierarchy MRN, 1 and 2 carriageway inspections will be Route Based i.e., the inspections will extend across the whole of a Local Highways Managers area.
- 5.4.3. All other inspections are Area Based i.e., they are a selection of carriageway and footway assets within a discrete maintenance area which satisfy the criteria of a given inspection schedule. In normal circumstances the inspecting officer will have routine maintenance responsibilities within the maintenance area. However, allocation of available staff resources will mean that this may not always be the case.
- 5.4.4. Service inspections will be carried as part of the Local Area Inspection for all hierarchies of carriageway and footway, combining with the safety inspections.

## 5.5. Inspection Schedules

- 5.5.1. To facilitate the efficient implementation of the inspection regime each carriageway and footway asset will be assigned to one of seven inspection schedules. In Line with the risk-based approach which outlines ‘Where carriageway and footway hierarchies intersect, for example at all controlled crossings the higher inspection frequency takes precedence in determining of inspection frequency, defect definition and responses. This principle also applies to intersections between carriageways and cycleways and between cycleways and footways.’
- 5.5.2. Where sections are identified as being impractical to inspect from a vehicle the inspections will be walked, irrespective of hierarchy. Where footway sections are identified as slabbed or modular the inspection will be walked, irrespective of whether it can be practically inspected from a vehicle.

5.5.3. Explanation of inspection schedules:

Numeric = frequency of inspection (e.g., 12 per annum)

A = Area based

D = Driven

R = Route based

W = Walked

5.5.4. The inspection schedules are tabulated below:

Schedule	Roadway Asset	Hierarchy	Inspection Frequency per annum	Comments
12WA	Footway and Carriageway	MRN/1	12	No comments
12DR	Urban and rural carriageway and footway	MRN/1	12	No comments
4WA	Footway and Carriageway	2	4	No comments
4DR	Urban and rural carriageway and footway	2	4	No comments
4DA	Carriageway and footway	3	4	Includes hierarchy 4 slabbed or modular footways.
1WA	Footway	4	1	All footways not included in Schedules 12WA, 4WA, 4DR, 4DA and 12DR
1DA	Carriageway and footway	4, 5, 6	1	Excludes footways identified in Schedules 12WA, 4WA and 4DA.

Schedule	Roadway Asset	Hierarchy	Inspection Frequency per annum	Comments
1/3DA	Carriageway	7	Every three years	Driven if possible, else walked
1/5WA	Carriageway	8	Every five years	No comments

5.5.5. The annual programme of inspections should be created to ensure that all assets are inspected at the frequency required and to allow the resource available to respond within the agreed timescale. The schedules which have an inspection frequency greater than one per annum are programmed to provide an equal interval between each inspection throughout the year. The pattern of inspections is consistently applied to consecutive years so that the inspection intervals are maintained year on year.

## **5.6. Service Inspections - General**

5.6.1. We undertake Service Inspections in conjunction with the Safety inspections.

5.6.2. Service inspections are strongly focused on ensuring that the network meets the needs of users and provides future scheme identification, to ensure that they meet the levels of service defined within the Asset Management Framework. These surveys are dependent upon the Highways Asset Management Strategy to determine programmes of work.

## **5.7. Service Inspections for Carriageways, Footways and Cycleways**

5.7.1. Service inspections for carriageways, footways and cycleways are carried out in conjunction with safety inspections for these assets. These surveys may be undertaken either by slow moving vehicle, on foot or by utilising data such as video depending upon the circumstances.

5.7.2. As each carriageway and footway asset is inspected in turn there are different categories of carriageway treatments that can be recommended for it, dependent on which physical features that particular section contains. The available treatment categories are Structural Treatment, Surface and Patching Treatment, Surface Treatment and Edge Treatment.

## **5.8. Safety and Service inspections of Public Rights of Way**

5.8.1. The Countryside team follows an area-based approach towards its inspection regime.

- 5.8.2. The regime follows Countryside Areas A, B, and C, with these areas split up into two, bar one, due to respective size. This equates to 5 area-based inspections. Inspections are undertaken across all priorities of path in set numbers of parishes annually. This equates to 20% of the County network per annum so that after a five year period each parish and paths will have been inspected once.
- 5.8.3. As per [Volume 1, Section 4](#) of this plan, where certain PROW are considered part of the footway hierarchy, safety inspections are carried out accordingly.
- 5.8.4. The Inspections will highlight issues, defects and obstructions on the Public Rights of Way whilst providing information on the condition of any known PROW structures.

## **5.9. Safety and Service Inspections of Landscaped Areas and Trees**

- 5.9.1. We are responsible for ensuring that trees outside the highway boundary, but within falling distance, are safe. Section 154 of the Highways Act 1980 empowers us to deal, by notice, with hedges, trees and shrubs growing on adjacent land which overhang the highway, and to recover costs if appropriate.
- 5.9.2. Safety and Service inspections undertaken by our Local Highways Team incorporate highway trees, including those outside but within falling distance of the highway. Gale damage, broken or overhanging limbs and unstable or leaning trunks which endanger the highway are further included within the Safety inspection, if the inspector judges them to pose a danger to highway users.
- 5.9.3. When the tree is privately owned and safety considerations permit, the owner or occupier shall be informed and given notice to take action within 28 days. If safety considerations do not permit, then appropriate action should be taken to make safe. Follow-up action will be necessary immediately after the 28 days have expired if the owner or occupier does not respond appropriately.
- 5.9.4. We include some basic arboricultural guidance in training for inspectors, but arboricultural specialists advise on the appropriate frequency of inspections and works required for each individual street or mature tree that is considered to hold a high risk to users of the network. A separate programme of safety inspections for all trees is undertaken by our arboricultural officers. See Condition Surveys in [Section 4](#) of this volume for more information, for more information.
- 5.9.5. Highway trees contribute to amenity and nature conservation and in urban areas can enhance the space between buildings, reinforcing the area's character and appeal. Close co-operation between arboriculturists, highway engineers, landscape architects and urban designers is essential to preserve and enhance the range and quality of street trees, ensuring that a considered approach has been taken to supporting sufficient species diversity to make the overall town or neighbourhood tree population

more robust to the advent of disease and/or more resilient to climate change. Avenues, boulevards, town squares and formal spaces, and informal rural locations all require the application of different planting principles. Trees and planting may reflect the history, architecture and tradition of places. Small pockets of poor-quality planting can undermine the quality of the streetscape.

5.9.6. Street trees and planting are not appropriate in every instance. Trees and planting should always form part of the overall urban context, and not be added or preserved without question. Trees may be planted where trees have not been planted previously particularly in urban areas that have changed use (e.g., warehousing to residential) or in areas where historically they were considered unworthy of tree planting.

## **5.10. Safety and Service Inspections of Traffic Signs and Bollards**

5.10.1. Traffic signs are the most visible elements of the highway network, highly valued by users, and contribute significantly to network serviceability through facilitating efficient and effective use of the network.

5.10.2. The Inspections will monitor non-illuminated signs which have fallen into the highway or are in an unsafe condition. This item includes poles which have been damaged or worked loose if they are leaning into the carriageway area. A sign shall be deemed unsafe if any of its fastening points have failed and it is visibly capable of being dislodged or moved dangerously by high winds.

5.10.3. Traffic signs shall be kept legible, visible and effective as far as possible at all times in relation to the road use and traffic speeds.

5.10.4. Signs that display a message which can be subject to enforcement identified within the inspection should be repaired or replaced in the timescales outlined in [Appendix B](#) of this Plan.

5.10.5. Any sign or bollard identified as a potential safety issue will be made safe as soon as reasonably practicable. A Large Advanced Direction Signs (ADS) identified as a safety risk will be dealt with as an emergency and made safe. Subsequently it will be put onto a programme to be replaced accordingly.

5.10.6. Vegetation potentially obscuring road signs shall be recorded during safety inspections and service inspections of carriageways, footways and cycleways and treated accordingly. The level of risk associated with such vegetation may change during periods of maximum growth.

5.10.7. Special signing schemes, for example blockwork chevron treatments at roundabouts and traffic calming schemes using special signing may deteriorate more quickly than conventional signing. They are also likely to have been installed to improve network

safety, therefore liaison with LRSP must take place before considering replacement, removal or a change to the design.

5.10.8. The condition of non-illuminated road signs shall be inspected in daylight for degradation of colour, retro-reflectivity, deteriorating fittings, legibility distance, and average surface luminance, after cleaning. The frequency of cleaning required will be influenced by the risk of soiling in local areas.

5.10.9. Service inspections shall be used to identify signing that is inappropriate or no longer necessary and may be a distraction to users, or detrimental to the street scene. Such inspection is combined with the condition inspection and will be route-based, where both legality and appropriateness will be assessed, and a decision by our Signs and Lines team will be made whether to remove the sign.

### **5.11. Safety and Service Inspection of Road Markings and Studs**

5.11.1. Inspections in respect of wear, spread, colour, skid resistance and retro-reflectivity shall be undertaken for paint markings and for thermoplastic markings, at frequencies determined by local risk assessment. Inspections for reflective conspicuity shall be carried out during the hours of darkness and programmed to enable maintenance works to be completed before the onset of winter. This is undertaken annually and combined with the condition inspection. For more information see Section 4.10. of this Volume

5.11.2. Although the hole left by a dislodged stud is unlikely to quickly enlarge to meet the pothole criteria more than one stud missing in any particular section of road should alert the inspector to the possibility of more failures and trigger a detailed inspection of all studs in that section.

### **5.12. Safety and Service Inspection of Traffic Signals and Pedestrian/Cycle Crossings**

5.12.1. The priority objective is to provide and maintain all traffic signals, controlled pedestrian and cycle crossings to a high standard to ensure the safety of all road users and to ensure the efficient operation of the highway network.

5.12.2. The Traffic Signals Contractor operates a remote monitoring system which records or reports lamp failures.

5.12.3. The following standards are used in the operation of the highway network:

- urgent traffic signal faults or damage constituting a danger to the road user are attended to within two hours and repaired within 24 hours;
- traffic signal controllers damaged beyond repair are replaced within 72 hours where reasonably practicable;

- failed traffic signal lamps and other less urgent faults are attended to with 12 hours and repaired within 24 contract hours;
- traffic signals installations are inspected for safety once a year;
- additional cleaning is carried out when required; and
- warning signs are erected if traffic signals are off and temporary traffic signals will be provided where reasonably practicable

### **5.13. Regulatory Functions**

5.13.1. A significant element of our Highway Service comprises regulation and enforcement of activities on or affecting the highway

5.13.2. Key Regulatory duties include:

- New Roads and Street Works Act 1991;
- management of Highway Register;
- management of Public Rights of Way;
- dealing with encroachment on the Highway;
- dealing with illegal and unauthorised signs;
- licensing skips, hoardings, temporary closures and other authorised occupation of the highway; and
- construction of vehicle crossovers.

5.13.3. Although each of these are separate duties, many of them have wider implications for highway maintenance, for example:

- many of these items including illegal signs or encroachment, may have the potential to contribute to accidents; and the details of how we dealt with (or did not deal with) the occurrence may be a material consideration in legal proceedings; and
- illegal parking on verges and footways, especially by heavy vehicles, could cause considerable damage and where this has occurred it might be relevant to increase inspection frequency and consider new materials or prevention.

5.13.4. A regime of regulatory inspection has been developed on the basis of risk assessment. Further information regarding regulatory functions can be found in our [Network and Traffic Management Plan](#).

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## 6. Programming and Priorities

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### 6.1. Introduction

6.1.1. The general principles to be applied to priorities and programming are outlined in [Volume 1, Section 7](#) of this plan, with this section relating to highways assets.

### 6.2. Balancing Priorities by Type

6.2.1. The broad priorities for the respective types of highway maintenance are largely determined by the outcome of safety and service inspections and condition surveys, assessed against local risks and policies. We have established priorities and programmes for each of the following:

- emergency / reactive maintenance – attending to defects and other safety matters that require urgent action arising from inspections or user information;
- planned maintenance – attending to defects and other less urgent matters that may benefit from further planning leading to permanent repairs;
- programmed maintenance – providing lifecycle / road condition-based work streams;
- cyclic/routine maintenance – providing locally defined levels of service;
- regulatory functions – regulating occupation, interference or obstruction of the network, outlined in our [Network and Traffic Management Plan](#); and
- winter service – providing locally defined levels of service of salting and clearance of ice and snow, outlined in our Winter Service Plan

6.2.2. The determination of priorities and programmes for items within the categories of regulatory functions and Winter Service tend not to require any special consideration and largely arise out of the design of the services.

### 6.3. Priorities for Emergency/Reactive Maintenance

6.3.1. Emergency / reactive maintenance involves attending to the rectification of defects and other safety matters that require urgent action arising from inspections or user information in accordance with the locally determined levels of response. Although all such matters will by definition have a degree of urgency, some may have potentially even more serious consequences, and priorities will usually be determined exclusively on the basis of risk assessment. This risk assessment will be based upon our response time risk matrix, outlined in [Appendix B](#) of this Plan.

6.3.2. Reports from members of the public provide a source of information on the condition of all aspects of the highway network. This source is used to complement formal inspections and surveys, and this Plan is available publicly to outline the processes and



systems in place. To ensure that suitable communication is provided to contributors to acknowledge receipt of information and provide feedback, Fault reporting is available through the FixMyStreet website and the Customer Service Centre provides feedback on enquiries which are all logged on the Confirm Asset Management System.

- 6.3.3. The option selected, together with relevant follow up, will largely be determined by operational practicalities and whether the site is already part of a programme for more comprehensive treatment, in which case a temporary repair may be an appropriate course of action.
- 6.3.4. Consideration will be given to one of the following:
- sign and make safe;
  - carry out initial temporary repair; and
  - effect a permanent repair
- 6.3.5. We shall adopt permanent repairs as the first choice. Temporary repairs shall only be used where safety cannot be managed using alternative approaches and in emergency circumstances.

#### **6.4. Priorities for Planned and Programmed Maintenance**

- 6.4.1. There is a presumption that a programmed maintenance regime will provide lower whole life costs than one based upon a reactive approach. We therefore employ systems that enable a data-led approach to the targeting of structural maintenance.
- 6.4.2. The updated PMS system provides UKPMS outputs from CVI inspections. Combined with results of other surveys such as Deflectograph, SCRIM and local Safety and Service inspections enable informed decisions to be made in respect of planned maintenance programmes and treatments.
- 6.4.3. As mentioned in [Volume 1](#), current and historic SCANNER and CVI condition data has been used to develop local deterioration curves for all carriageway classes, as part of our lifecycle planning development. This historic data was also used to determine the effectiveness of maintenance works carried out (i.e., scheme efficiency) for various treatment types. In combination with current treatment cost information used in DRC calculations, future carriageway surface condition by road classification was predicted for a number of treatment and budget scenarios. Strategic analysis is continuously being carried out on these scenarios to determine the most efficient maintenance strategy with current funding. These scenarios inform the targets included in our [Highways Infrastructure Asset Management Strategy](#).
- 6.4.4. Programmed Maintenance within our Operational Asset Management can be divided up into the following groups developed and designed by specialist teams:

- carriageways – patching, surfacing, re-tread, surface dressing;
- footways – reconstruction, patching, slurry sealing;
- drainage – improvements, replacement;
- minor works; and
- cyclic works – drainage cleansing

6.4.5. The Operational Asset Management teams that deliver these programmes of work are:

- patching and resurfacing;
- surface treatments;
- minor works and traffic; and
- MMT and cyclic

6.4.6. For scheme identification and prioritisation on the Classified Road Network (MRN, H1, H2, H3 and H4) a Lincolnshire Condition Indicator (LCI) has been developed which utilises a combined CVI and SCANNER indicator to give an overview of the surface condition of the network. A large number of potential schemes have been identified based on a visual assessment of the condition information. All available condition data including SCANNER, CVI, Residual Life from Deflectograph surveys and SCRIM that is held in Confirm is queried using the existing mapping tools to prioritise schemes and identify suitable treatments based upon an established set of "Rules and Parameters"

6.4.7. The maintenance schemes for carriageways are identified using the following stages:

- the information obtained from condition surveys is processed by the LCI system to establish an indicative programme with process outlined in Section 6.4.6;
- as part of the calculations for prioritisation, defect reports from the public are taken into consideration, the more unique defects reported increase the weighting added to the final scoring assigned to the site, this integration of condition data and customer information will allow us to further target our resource to the need of the network and the user.
- the indicative three year programme for individual hierarchies should then be developed into individual schemes that meet the levels of service in the Highways Asset Management Strategy. The schemes may then be prioritised using a process of Value Management. Schemes are not necessarily prioritised on the basis of 'worst first' as this is unlikely to provide the best value for money in terms of whole life cost.

6.4.8. The list of schemes developed is provided to our asset management engineers who undertake further investigation and assessment to refine the details of the scheme and develop the detailed treatment schedules for the works taking into account the following Value Management:

- whole life costs;
- network management considerations;
- buildability;
- the budget available; and
- risk

6.4.9. The data alongside engineering expertise generates a five-year programme of major structural maintenance schemes for the principal road network (MRN, H1 and H2), which is updated annually on the basis of latest survey data.

6.4.10. The LCI generates a three-year indicative programme for the surface maintenance schemes H3 and H4 carriageway network, with an annual works programme for the schemes of work outlined, approved and put on our website <https://www.lincolnshire.gov.uk/faults-maintenance/highway-works-programmes>

6.4.11. For the Unclassified Network (H5, H6, H7 and H8), schemes are determined using a combination of CVI data maps and the priorities of Local Highway Managers. They are provided with detailed maps showing the results of CVI surveys. These combined with annual local Safety and Service inspections undertaken by the Local Highways teams enable effective planning of maintenance programmes.

6.4.12. Further elements included in determining the prioritised list shall be clusters of enquiries highlighted by members of the public regarding surface defects, location to generate linked work schemes to improve efficiency.

6.4.13. Surface Dressing will be linked with this approach, as well as aligning itself with patching works around the county and any local safety issues regarding skidding resistance. All surface dressing schemes will take into account lifecycle planning, with SCRIM surveys and PRN data guiding prioritisation. Routine Surface Dressing programmes of work are further based upon the results of local inspections and reports from CVI surveys and facilitated by Local Highway Managers.

6.4.14. Footways and cycleways undergo a similar scheme prioritisation process, with the data from the FNS (Footway Network Survey) collated and processed. This data is used in a calculation for footway scoring; this score then has weighting applied to it based on, customer fault reporting, location and usage of a footway.

6.4.15. Similarly to LCI for carriageways, this allows a union of condition data and customer enquiries to use all available information to fully prioritise our repairs on the network.

- 6.4.16. A three yearly indicative programme of schemes will be generated highlighting priorities, with an annual fixed programme outlined, approved and made publicly available.
- 6.4.17. Budget disaggregation to Asset Managers is also based upon the visual survey data output to ensure that available funding is correctly apportioned. Maintenance funding for other nonroutine elements of the network such as signs, lighting columns etc. are based upon inventory counts.
- 6.4.18. Programmed maintenance seeks to minimise cost over time and to add community value to the network or to the environment. It can also be for safety purposes by, for example, improving skidding resistance or contributing to serviceability by, for example, improving ride quality.
- 6.4.19. As demonstrated in this section, we have developed priorities and programmes for the structure, surface and edge of carriageways, footways and cycleways, using data such as age, condition, hierarchy, location and lifecycle planning.
- 6.4.20. Programmed maintenance schemes may be more expensive than routine or reactive treatments in initial cost but should be designed to have a lower whole life cost, therefore providing value for money. The determination of priorities between competing schemes is based more objectively utilising robust Value management. Quarterly Value Management sessions are formalised to ensure this approach towards Programmed maintenance.

## **6.5. Priorities for Routine Maintenance**

- 6.5.1. Routine maintenance is primarily for the purpose of providing defined levels of network serviceability, maximising availability, reliability, integrity and quality. The priorities and programmes are determined largely, but not exclusively, from non-urgent defects identified during service inspections together with items from safety inspections not requiring urgent attention and user requests.
- 6.5.2. Priorities and programmes have been defined for all routine maintenance categories based on the Highways Asset Management Strategy. Routine maintenance for each category may be undertaken separately, according to the frequency defined in each case, but it will usually be more efficient to combine a number of operations into a co-ordinated programme. Consideration shall be given to co-ordination with other related street activities.
- 6.5.3. The results of safety inspections identifying non-urgent works, condition surveys and customer requests may also generate routine works programmes.
- 6.5.4. We undertake numerous forms of cyclic and/or routine maintenance:

- drainage systems – cleansing and repair;
- embankments and cuttings – drainage and stability;
- landscaped areas and trees – management;
- verges – grass cutting;
- fences and barriers – tensioning and repair;
- traffic signs and bollards – cleansing and repair;
- road markings and studs – replacement; and
- weed spraying

6.5.5. Routine maintenance standards for cyclic works such as drainage cleansing, grass cutting, tree management and sign cleaning are defined in [Section 4 of this Volume](#). For fences and barriers, please refer to [Volume 3 Structures](#).

6.5.6. Timing of such cyclic works can be dependent upon various factors such as time of year or weather conditions. Asset management ensures that all cyclic work is structured so that a consistent approach to this type of work and effective service delivery is maintained.

## **6.6. Value Engineering and Treatment Best-Practice**

6.6.1. We adhere to the second stage of the Value Management process that is conducted on an individual scheme, to optimise both the design and construction phases. In principle, it reduces the risk associated with unforeseen issues at the time of scheme development.

6.6.2. We utilise our Maintenance Design Manual, outlined by expert Lincolnshire designers based on recognised best practice, as our starting point for design. The Maintenance Design Manual deals with the design element of non-cyclic works. The manual has been prepared to ensure uniform, economic designs are produced throughout the county and utilises the results of research carried out both nationally and locally.

6.6.3. It further follows the guidance documents set by the Road Surface Treatments Association (RSTA) that aim to raise awareness of the range and benefits of road surface treatments, and to encourage product and process innovation. Many of these have been produced in conjunction with the ADEPT Soils and Materials Design Group, and cover topics including service lives, surface dressing, innovative patching products and systems, high friction surfacing, structural road recycling, crack sealing and slurry surfacing, geosynthetics and steel meshes, asphalt preservation systems, grouted macadam, retexturing and ironwork installation.

6.6.4. In terms of Surface Dressing, we adhere to Transport Research Laboratory's Road Note 39 which sets out Best-Practice when considering surface dressing programmes.

# Volume 3 – Structures

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## 1. Introduction

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### 1.1. Context of Volume 3

- 1.1.1. Volume 3 of the HIAMP deals with the highway structures associated with the adopted road network which meets the dimensional criteria, in line with Part C of the Well-Managed Highways Infrastructure Code of Practice. In addition, the general principles apply to structures associated with all other highways that are used by the public, e.g., segregated footpaths and cycleways, and the Public Right of Way network.
- 1.1.2. Highway Structures include Culverts, Bridges, Footbridges, Retaining Walls, Subways and Overhead Gantries. There are 4035 structures in Lincolnshire that are our responsibility including 1516 bridges (over 1.5m span), 2206 culverts, 14 Subways, 141 Highway footbridges and 148 recorded retaining walls. In addition, there are a further 1789 privately owned structures, carrying County roads. The main owners of these are Network Rail, National Highways (Historic Railways Estate), the Environment Agency and various Internal Drainage Boards.
- 1.1.3. Some two thirds (66%) of the County's bridges are situated on minor (C class or unclassified) roads, with 22% on Principal Roads (A class) and the remaining 12% on B roads. Approximately 60% of the bridge stock was built prior to 1922. A high proportion of the bridges and culverts in Lincolnshire consist of brick arches, many in excess of 100 years old.
- 1.1.4. The overarching principles and common themes of maintaining highway infrastructure are covered within [Volume 1](#). Asset specific guidance for highways and lighting are covered in [Volume 2](#) and [Volume 4](#), respectively.
- 1.1.5. Highway structures represent a significant investment, with most being publicly owned and many being prominent features in the local environment. In Lincolnshire, as in the entirety of the UK, the management of highway structures is undertaken by a variety of owners or agencies.

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## 2. Legal Framework

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### 2.1. Statutory Obligations

- 2.1.1. General duties and powers are dealt with in [Volume 1](#) of this HIAMP. All relevant legislation on Highways Structures is mentioned in [Appendix E](#) of the Plan.

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## 3. Asset Management Information

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### 3.1. Introduction

- 3.1.1. Asset data management and its systems are dealt with by the [UKRLG Highway Infrastructure Asset Management Guidance \(HIAMG\)](#), Part B and Part C.
- 3.1.2. We operate with the Asset Management System Confirm, which among other assets, stores all Structures.

### 3.2. Principles and Considerations

- 3.2.1. The Confirm asset management system supports the following list of functions with regards to Structures assets:
- collection, storage and retrieval of inventory data and condition data;
  - works management and prioritisation;
  - asset valuation – both gross replacement and depreciated replacement cost to support whole of government accounting requirements;
  - deterioration modelling and life cycle planning; and
  - aid in management and storage, in electronic format, of drawings, photographs and reports

### 3.3. Management of Asset Information

- 3.3.1. Data entry for Inspections, mostly for General Inspections is combined with the identification of needs in order to produce a more time and cost-efficient approach. The highway structures stock is divided into groups and sub-groups: Bridges, Culverts, Retaining Walls, Safety Barriers and Fences, Signal Gantries, Structures, PROW and a drainage group. These groups have similar deterioration characteristics and maintenance.
- 3.3.2. The extent of the data we hold can be summarised by the following, by no means exhaustive list: Basic inventory data (the basic data and information on the stock of highway structures in terms of descriptive parameters), Condition data, Structural Assessment and Review data and a Health and Safety File.
- 3.3.3. General and Principal Inspections provide the majority of condition data. These are supplemented by Special Inspections, testing and monitoring, as appropriate, where the data sought is often focussed on a particular part of the structure or aspect of performance. More information on the various types of inspections can be found in [Section 5 of Volume 3](#).

3.3.4. Condition data from previous inspections is retained as the evolution of this data over time, which gives a clear indication of the rate of deterioration and residual service life. This data is used to estimate deterioration rates for different element and structure types which may be utilised to develop lifecycle plans.

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## **4. Asset Condition and Investigatory Levels**

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### **4.1. Introduction**

- 4.1.1. We are responsible for the construction, maintenance and repair of highway structures that we own. This section will focus on the design and construction element of our responsibilities.
- 4.1.2. All design specifics for small-scale structures have been defined in Section 12 of our Maintenance Design Manual (MDM).
- 4.1.3. All maintenance work should preferably be designed to current standards, although there may be situations where lesser standards are acceptable, e.g., repair of part of an element, repair of accident damage. Each case should be considered on its merits.
- 4.1.4. The design life for adoptable highway structures is 120 years and technical design standards produced by the Department of Environment and Economy are intended to achieve this.
- 4.1.5. The Design Manual for Roads and Bridges (DMRB) and the Manual of Contract Documents for Highway Works (MCHW) are maintained by National Highways on behalf of all Overseeing Organisations (the national highway/roads authorities in England, Scotland, Wales and Northern Ireland).
- 4.1.6. The DMRB provides detailed guidance in the form of standards (BDs) and advice notes (BAs) for most aspects of highway structure design and assessment. The guidance includes criteria for structural loading, analysis, material properties, element design or assessment, in addition to geometrical requirements and best practice for design for durability. Our own MDM takes note of these standards and integrates them into our service standards.
- 4.1.7. All structural design and assessment are subject to a formal Technical Approval procedure.
- 4.1.8. Departures from DMRB standards are carefully recorded to enable an audit trail for certification by us through a standard departure form.



- 4.1.9. The Eurocodes are a series of European Standards developed by the European Committee for Standardisation, to provide a common approach for the design of buildings and other civil engineering works and construction products. The Eurocodes have replaced national codes that were previously published by national standard bodies and have become mandatory for European publicly funded works. As with other European standards, the Eurocodes will be used in public procurement.
- 4.1.10. Changes in demand in the future may alter how a structure should be managed. The prediction of future demand on highway structures should align with the network demands and are likely to include changes in vehicle weight, height and width, and traffic volume. Future demands can be predicted using available data, historical trends, and local factors.

## **4.2. Resilience Requirements**

- 4.2.1. The principles of resilience for highway infrastructure shall be dealt with in the Resilient Network Plan, which outlines how we maintain a resilient network during adverse weather events and other emergency situations. This document, among other things, will outline contingency plans generated for structural failure caused by extreme weather events.
- 4.2.2. For the purposes of this plan, it is important to highlight that inspections, overall maintenance of structures and fixed design standards ensure a robust approach which minimises risk of structural failure. Failure is defined as the inability of a structure, or one of its primary load-carrying components, to perform its intended function of being safe for use and fit for purpose.
- 4.2.3. For more information on Inspections and maintenance, please go to [Section 5 of this volume](#).

## **4.3. Interaction with Other Owners and Third Parties**

- 4.3.1. The Structures Manager shall work with other owners and third parties in order to maintain the safe operation of the public highway and to carry out maintenance work.
- 4.3.2. We may carry out the following activities on Third Party Structures:
- clearing vegetation for General Inspections;
  - clearing obstructions to prevent immediate flooding;
  - carrying out general inspections and reporting safety issues to owner; and
  - carrying out accident damage procedures that includes:
    - operating a recoverable works system;
    - signing and guarding;

- special inspections, excluding preparing cost estimates;
  - reporting the inspection results and recommendations to the owner; and
  - invoicing the owner for costs that we incur
- 4.3.3. We are not responsible for any Trunk Road structure. Trunk Road structures are managed by National Highways or their agents. In the case of Network Rail structures, the General Inspection will specifically exclude inspection from land owned by Network Rail.

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## 5. Inspection, Assessment and Recording

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### 5.1. Introduction

- 5.1.1. The general principles to be applied to inspections, assessment and recording are outlined in [Volume 1](#) of this HIAMP. This section covers guidance for each category of inspection relating to structures.
- 5.1.2. Inspection, testing and monitoring shall be used to:
1. provide data on the current condition, performance and environment of a structure. The data enables the Structures Manager to assess if a highway structure is currently safe for use and fit for purpose, and provides sufficient data for actions to be planned where structures do not meet these requirements;
  2. inform analyses, assessments and processes. The outputs inform asset management planning and enable cost effective plans, which deliver the agreed levels of service; and
  3. compile, verify and maintain inventory data
- 5.1.3. The Inspection Manual for Highway Structures (Volumes 1 and 2) was commissioned by National Highways and published in May 2007 and is utilised for our inspection regimes.
- 5.1.4. Structures Inspections can be divided up into three different inspection types: General Inspections, Principal Inspections and Special Inspections.

#### **General Inspection**

- 5.1.5. General Inspections comprise a visual inspection of all parts of the structure (that can be inspected without the need for special access or traffic management arrangements) and, where relevant to the behaviour or stability of the structure will include an inspection of the adjacent earthworks or waterways.

### **Principal Inspection**

5.1.6. Principal Inspections comprise a close examination, within touching distance, of all accessible parts of a structure, including, where relevant, underwater parts and adjacent earthworks and waterways, utilising suitable access and/or traffic management works as necessary. Closed circuit television and high-resolution digital photography/video may be used for areas of difficult or dangerous access, e.g., obscured parts of a structure, confined spaces and underwater inspections.

5.1.7. A Principal Inspection will establish:

- the scope and urgency of any remedial or other actions required before the next inspection;
- the need for a special inspection and/or additional investigations; and
- the accuracy of the main information on the structure held in the inventory.

5.1.8. Both Principal and General Inspections will be of sufficient scope and quality to determine:

- the condition of all parts of the structure;
- the extent of any significant change or deterioration since the last inspection; and
- any information relevant to the stability of the structure and/or continued use in service and safety.

### **Special Inspection**

5.1.9. There are occasions when a more specific inspection, concentrating on the condition of particular parts of the structure, is required. This is known as a Special Inspection. The need for a Special Inspection normally arises due to specific circumstances or following certain events.

### **Acceptance Inspection**

5.1.10. The need for an Acceptance Inspection should be considered when there is a changeover of responsibility for the operation, maintenance and safety of a structure from one party to another. The Acceptance Inspection is normally carried out by the party taking over responsibility but who may be accompanied by the other party to facilitate agreement.

## 5.2. Inspection Regime

### 5.2.1. Summary of Inspection Cycles

Structure Type	Inspection Type	Classification	Cycle
Culverts	General	Brick or Reinforced Concrete	Two years
Culverts	General	Corrugated Steel or Concrete Pipes	Six years
Bridges and Miscellaneous	General	All	Two years
Bridges and Miscellaneous	Principal	Span greater than five metres	Six years
Bridges and Miscellaneous	Principal	Span less than five metres	Subject to risk assessment
Retaining Wall	General	Retained Height greater than three metres	Two years
Retaining Wall	General	Retained Height greater than 1.37m	Six years

Notes: -

- 1) Refer to [Appendix D](#) for Type of Structure definitions
- 2) Structures on the Public Rights of Way (PROW) network will be subject to an independent inspection and recording regime.

5.2.2. We carry out routine surveillance as part of our regular Highway Safety Inspections. We will inspect the surface over highway bridges, footbridges and through subways at regular intervals to identify any potential trips.

5.2.3. Structures inspections exclude all drainage that is defined as a pipe with a diameter or span less than 600mm.

5.2.4. We carry out General Inspections on Third Party structures as a duty of care to protect the safety of the general public and road users.

5.2.5. We carry out General Inspections of all structures that carry or support County Maintained Highway or Highway footpaths. General Inspections are also carried out on structures with spans five metres or greater carrying Public Right of Ways. Our

Structures Team shall also note significant potential trips on the walking surface of bridges, footbridges and subways. The steps and ramps leading to subways are an extension of the walking surface.

- 5.2.6. Retaining walls will receive General Inspections every six years, unless greater in height than three metres, in which case they will be inspected every two years. No Principal Inspections are carried out on retaining walls.
- 5.2.7. The frequency of General Inspections will be every two years. For Public Rights of Way footbridges over five metres span General Inspection interval is six years, and Public Rights of Way bridges between 5 and 10m span receive a Principal Inspection at six yearly intervals (instead of General Inspection).
- 5.2.8. Countryside Staff will have sole responsibility for carrying out inspections to structures with spans less than five metres carrying Public Rights of Way. The frequency of inspection of structures on Public Rights of Ways is every two years on sign posted paths and three years on every other path.
- 5.2.9. The Structures Team carry out all General Inspections and Principal Inspections of all County owned structures (that are eligible\*) that carry or support County Maintained Highway and Highway footpaths.  
  
\* Structures with spans less than five metres will receive a risk assessment to determine the requirement for a Principal Inspection. In many cases a General Inspection every two years will be more than adequate.
- 5.2.10. The approach to risk-based inspection intervals taken within Lincolnshire is that, in most cases, General Inspections will occur every two years, and where the structure qualifies for a Principal Inspection, it will take place every six years. This approach presents a regularity of inspection interval and record keeping which reduces our risk.
- 5.2.11. There may be circumstances in which a Principal Inspection interval is reassessed depending on other information available to the Structures Team at the time (i.e., available records from third parties such as NR or CRT).
- 5.2.12. According to [Well Managed Highway Infrastructure: A Code of Practice \(Oct 2016\)](#) culverts less than 1.5m span are no longer defined as structures. However, within Lincolnshire, the view is that this asset will continue to need to be managed. A risk-based decision has been taken to reduce the General Inspection interval for concrete pipes and corrugated steel pipes between 0.6m and 1.5m diameter to six yearly.
- 5.2.13. The Structures Team will carry out or organise **Special Inspections** that fall into three distinct categories:

### **Routine Diving Inspections**

- 5.2.14. The Structures Team carry out risk assessments of structures susceptible to the effects of scour based on local knowledge of the form of bridge construction, soils, foundation type, risk of flash flooding, tidal waters, etc. Diving inspections are categorised into two groups according to the risk and different frequency of inspections allocated. Only a limited number of structures known to be at risk or likely to be at risk are targeted. Diving inspections are carried out by commercial divers under contracts awarded by competitive tender.
- 5.2.15. The current policy is to carry out a small number of diving inspections every year, with structures inspected at intervals determined by perceived risk of scour. A small number of bridges are inspected annually, generating two-to-four-year cycles for inspection.
- 5.2.16. Our Structures Team utilises Sonar technology to inspect the Trent Bridge in Gainsborough annually, instead of Diving inspections, which reduces the risk taken by inspectors and increases the amount of data that can be picked up during an inspection. We continue to explore options to increase the utility of sonar technology within its inspection regime, keeping into account risk, suitability, safety, and the cost of such an enterprise.

### **Routine Monitoring**

- 5.2.17. The Structures Team will carry out monitoring of structures where movement or scour may lead to failure of a structural element. In addition, those bridges which have failed a bridge assessment but have not been weight restricted are assigned a monitoring frequency of 3, 6 or 12 months, depending upon the degree of concern or risk.

### **Special Inspections not part of the routine inspection programme**

- 5.2.18. The Structures team shall carry out special inspections:
- to investigate a specific problem as a follow up to a previous inspection
  - if settlement or rotation is reported
  - after flooding of abnormally high-water flows where a problem is anticipated
  - after a major accident or incident
  - in response to safety concerns by individuals or representative bodies

### **Acceptance Inspections**

- 5.2.19. Acceptance Inspections on new, existing and concession structures include the following, as appropriate:
1. Handover of a new structure:

- an Acceptance Inspection should be undertaken for new structures about one month before the issue of the completion documentation or opening to traffic. A Principal Inspection is used for this purpose.
2. Transfer of an existing structure:
- an Acceptance Inspection should be undertaken prior to an authority taking over responsibility of an existing structure. A Principal Inspection should be carried out as part of the Acceptance Inspection unless the results of a recent Principal Inspection are deemed to be relevant and sufficient.

5.2.20. The arrangements of an Acceptance inspection shall be integrated within the section 38 and 278 processes regarding adoption of roads and any potential improvement works to be undertaken on developments.

### **5.3. Safety and Service Inspection of Fences and Barriers**

- 5.3.1. Steel and wire road restraint systems shall be inspected at intervals determined through risk assessment in respect of mounting height, surface protective treatment and structural condition, to ensure that they remain fit for purpose. Tensioning bolts of tensioned safety fences should be checked and reset to correct torque at intervals determined by risk assessment. Safety barriers adjacent to bridges shall be inspected as part of the highway asset, as well as part of General and Principal Inspections for structures.
- 5.3.2. Pedestrian safety fences, boundary fences and environmental barriers for which we are responsible, shall also be inspected in respect of integrity, and where appropriate stock proof qualities, during the course of service inspections of carriageways, footways and cycleways. These inspections are undertaken as part of our Local Highways Teams duties and more information on their inspection frequencies can be found in [Volume 2, Section 4 and 5](#) of this Plan.
- 5.3.3. Vehicle restraint systems are inspected in accordance with our strategy based upon the UKRLG/DfT October 2011 document – Provision of Road Restraint Systems for Local Authorities.
- 5.3.4. Safety barriers and fences adjacent to railway lines shall be inspected irrespective of liability.

### **5.4. Condition of Fences and Barriers**

- 5.4.1. It is required that all safety fences be maintained to a sufficient sound structural condition to serve their purpose and not to be a danger to road users or pedestrians. All damaged sections of safety fence will be made safe (signing and guarding) within 24 hours unless the damage is superficial and there is no loss of integrity.

- 5.4.2. All high-risk situations are subject to a robust inspection regime with a commensurate high level of condition. Road restraint systems are maintained in a sufficiently sound structural condition to serve their function and not be dangerous to road users or pedestrians.
- 5.4.3. Pedestrian guard rails, boundary fences and environmental barriers will be inspected in respect of integrity during the course of a condition inspection. (The general condition of timber guard rails, not associated with a structure, will be checked each year in conjunction with condition inspections.)
- 5.4.4. All steel beam safety fences will be inspected at the intervals in the table below:

Type of safety fence	Inspection
Steel Beam Safety Fence	Inspection every five years for mounting height, surface protective treatment and structural condition.
Tensioned Safety Fence	Tensioning bolts should be checked and reset to correct torque every two years.

**5.5. Competence and Training**

- 5.5.1. A programme of Continuing Professional Development (CPD) and training for Structures Managers, Engineers, Inspectors and other staff shall be provided to enable them to understand and implement the processes described within the HIAMP.
- 5.5.2. New members of staff are encouraged to participate in the Bridge Inspector Certification Scheme, where they will be provided with specific training on all elements of structure inspections, including sampling and testing.
- 5.5.3. The Structures team further enables members of staff to complete further education up to degree level and participate in the company approved training scheme (approved by the Institution of Civil Engineers) up to Incorporated Engineer and where possible Chartered Engineer status.

**5.6. Structural Reviews**

- 5.6.1. The future management of highway structures should include a regime of ongoing structural reviews to ascertain their adequacy to support imposed loads. Such reviews should be undertaken when significant events occur that could increase the imposed loads above those previously assessed for and/or reduce the load bearing capacity of structures. A structural review should be undertaken, for example, when one or more of the following conditions or events occur:



- the structures are known or suspected to have load bearing capacities below those deemed to be appropriate for the class of highway supported;
- there is a significant change in the regulations governing the configurations and weight limits of vehicles which may use the relevant highway. The impact of such changes would generally have been assessed by the department for transport or National Highways and guidelines issued to authorities on the actions to be taken;
- the hierarchy of the road carried by the structure has changed or is proposed to be changed. The change may modify the density and type of traffic carried resulting in a change to the 'loading class' defined in cs 454 the assessment of highway bridges and structures;
- records of the original design or subsequent assessment do not exist or have become discredited;
- the structure has been modified or is proposed to be modified;
- the structure is on a route proposed for an abnormal load movement, either a special-order vehicle or an un-common Special Type General Order (STGO) vehicle, for which the structure has not been previously assessed;
- significant deterioration or damage has been identified by an inspection. Conditions considered would include those found in structures such as arches which may be susceptible to changing condition factors.

5.6.2. Structural reviews are recommended to follow alternate Principal Inspections when these are done at the frequency included in the Inspection Manual for Highway Structures. We will undertake Structural Reviews every two Principal Inspections. Where appropriate, a structural review may result in the need for a full structural bridge assessment

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## 6. Programming and priorities

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### 6.1. Introduction

6.1.1. Programming and priorities are dealt with in the [UKRLG Highway Infrastructure Asset Management Guidance \(HIAMG\)](#), Part B. The general principles to be applied to programming and priorities are outlined in [Volume 1](#) of this Plan, with this section covering guidance relating to structures.

6.1.2. The maintenance planning and management process enables our Structures Manager to deliver our long-term goals and objectives by developing maintenance plans that align with and provide detail to the work volumes and phasing identified in the Asset Management Framework.

## **6.2. Classification of Works**

6.2.1. Three classifications have been made to describe the current operational standard for Structures:

- routine maintenance;
- reactive maintenance; and
- programmed major maintenance

## **6.3. Routine Maintenance**

6.3.1. We have established an appropriate routine maintenance regime for highway structures. In doing so particular consideration is given to the following points:

6.3.2. Planned routine electrical, hydraulic and mechanical maintenance of moving bridges, carried out by specialist contractors. This is a significant commitment and undertaking for the Cross Keys Swing Bridge.

6.3.3. Planned routine electrical and mechanical maintenance of pumps used to drain subways, carried out by specialist contractors.

6.3.4. Minor maintenance is carried out by the Term Service contractor's two maintenance gangs for small Structures and safety fence items generated by bridge inspections and third-party reports.

## **6.4. Reactive Maintenance**

6.4.1. We will reactively respond to any defects on our network, in accordance with our designated response times. Defects will usually be passed on to the Structures team in two ways: through inspections undertaken by Structures or Highways Inspectors or noticed by members of the public. For Structures, all defects will be inspected by a delegated Inspector and subsequently put on a planned programme regime and dealt with as soon as is reasonably practicable.

6.4.2. Removal of graffiti – Where graffiti on a highway structure is offensive or obscene, we will remove it as soon as practicable. Non-offensive graffiti may be removed during other planned maintenance works.

6.4.3. We are suitably prepared for urgent safety and stability concerns and emergencies and deal with them effectively when they occur. An emergency response procedure has been developed for this purpose and documented through the Network Resilience Team, and an associated emergency budget determined.

6.4.4. We will further have a reactive response to our road restraint systems in terms of safety barriers. If the damage is safety critical, we will aim to make safe as soon as possible and repair within seven days if reasonably practicable.

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## **7. Programmed Major Maintenance**

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### **7.1. The Planning Process**

7.1.1. The overarching elements for the Structures team to consider their planning process are the structure's ability to be safe to use and fit for purpose for its user.

7.1.2. They therefore consider the public safety, its location on the road network and the ease of access for the user. Its principal concern is the effect any issue may have on the local population and Lincolnshire's economy.

7.1.3. Relevant condition and performance inputs to the maintenance planning and management process include:

- inspection, testing and monitoring;
- assessment of structures through structural reviews; and
- incidents, emergencies and reports from the police or public

7.1.4. The asset inventory, condition and performance data are used to determine the current performance of the highway structures in a way that supports the identification of needs. These needs can be identified through up-to-date Condition and Performance Data, Lifecycle planning and regular maintenance intervals.

7.1.5. The Structures Manager should periodically review the condition and performance data to identify maintenance needs. It is recommended that General Inspection pro forma are reviewed and signed off no longer than two months after the inspection.

### **7.2. Lifecycle Plans**

7.2.1. Lifecycle plans shall be used to identify needs on specific structures and elements. The cyclic or intervention rules established in the lifecycle plans are compared against the current condition and performance of a structure or element and the specific characteristics of the structure are assessed to determine if the lifecycle plan activity is appropriate.

7.2.2. Lifecycle plans are developed using whole life costing in order to establish the most cost-effective approach alongside asset performance and network safety. For more information on Lifecycle Planning, please refer to the Structures section in the Highways Asset Management Strategy

### **7.3. Works Programme**

- 7.3.1. The structures workbank (works programme for Structures) is a database of all work that is currently outstanding on the network, including estimated costs for doing the work. It is recognised that certain work types by their very nature, e.g., re-active maintenance, cannot be planned in detail in advance but the workbank should still include a volume of work for these, albeit on unknown structures, based on past experience and engineering judgement.
- 7.3.2. The Forward Work Plan is a detailed one-year programme of work. This provides details of the schemes to be carried out in the one-year period and their approximate annual phasing. The Annual and Forward Work Plan are regularly monitored and reviewed to assess work delivery and changing priorities.
- 7.3.3. The Structures team further has a five-year rolling indicative programme of work, which outlines all identified planned works over the upcoming five years, subject to analysis and approval. This list may alter but provides a solid foundation to instigate a risk-based approach towards all upcoming programmed maintenance.
- 7.3.4. Feedback from inspections and maintenance work is utilised to improve the accuracy and development of lifecycle plans and maintenance strategies. Out-turn costs should be used to improve work bank cost estimates, whole life costing and asset management planning.
- 7.3.5. The workbank includes a full list of all maintenance required on the structures stock. The workbank provides the following information for each item of work:
- name and number or reference of the structure;
  - element where work is required;
  - defect, including severity and extent (if appropriate);
  - required work;
  - work type;
  - recommendation for when the work should be undertaken, i.e., which year; and
  - estimated cost

### **7.4. Value Management**

- 7.4.1. We prioritise the identified needs compiled in the structures workbank.
- 7.4.2. Value Management is the evidence provided by the Structures Team, by highlighting the reasoning behind the prioritisation of schemes within its workbank on a risk-based approach. It enables engineers readily to compare and identify a priority score for all

schemes taking into account budgetary and conditional considerations, whilst ensuring network safety and structural solidity. Further socio-economic and environmental factors are also taken into consideration. The indicative works programme is reviewed annually to generate a one year Forward Work Plan.

#### 7.4.3. Factors considered in scheme selection include:

- position on the carriageway, footway, cycleway or prowl hierarchy;
- public safety implications;
- financial implications of the work;
- implications of not acting, or delaying action;
- type of asset, e.g., bridge, tunnel, retaining wall, earth structure, etc;
- obstacle crossed, bridge span, retained earth height;
- critical asset, historic structure, permanent weight, height, width or swept path restriction;
- construction material, e.g., concrete or steel bridge, arch, slab or beam or girder bridge, concrete or stone walls, etc; and
- local factors

### 7.5. Value Engineering

7.5.1. Value Engineering is the process of developing an optimal solution to a maintenance need and reducing waste and inefficient aspects of design, construction and maintenance. Value Engineering takes the prioritised needs from the Value Management exercise and creates cost effective schemes that can be planned, scheduled and implemented.

7.5.2. The two key components of Value Engineering are option appraisal and scheme development. Important criteria that feed into these components include maintenance options and standards, Whole Life Costing and synergies with other schemes.

7.5.3. Option appraisal is necessary to identify the appropriate maintenance solution when there is more than one practical alternative for addressing the maintenance need. Scheme development is the effective combination of individual work items into schemes, in which each item makes best use of available funding and resources.

7.5.4. The full Value Engineering process is only appropriate for major schemes, but a simplified process should be used to deal with moderate and minor works, where minor works should be grouped into those of a similar type to streamline the process.

- 7.5.5. We employ multiple methods of Value Engineering, both on a day-to-day basis and for individual schemes. Mostly, throughout the process of the procurement exercises for large schemes, the Contractor will put forward its optimal method which we will review and adjust if required.
- 7.5.6. We further undertake multiple feasibility studies throughout our processes for Structures schemes. Scheme specific risk reduction meetings are also required to be undertaken to ensure minimal risk and optimal Value for Money for planned major works
- 7.5.7. The developed schemes are included within the Forward Work Plan.

# Volume 4 – Street Lighting

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## 1. Introduction

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### 1.1. Context of Volume 4

1.1.1. Volume 4 of the HIAMP deals with specific issues and themes regarding Street Lighting within Lincolnshire, in line with Part D of the [Well Managed Highway Infrastructure: A Code of Practice \(Oct 2016\)](#).

1.1.2. We, as a highway authority, are empowered to light the highways but we do not have a duty to provide lighting for roads. Other local councils, such as City, District and Parish, can adopt powers to provide street lighting.

1.1.3. Street Lighting cover a number of different asset types, these can include:

- lighting columns;
- lighting units attached to walls or wooden poles;
- heritage columns;
- illuminated bollards;
- illuminated traffic signs;
- columns and foundations;
- brackets;
- luminaires;
- control equipment, cables; and
- control gear, switching, internal wiring cabling (within ownership)

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## 2. Legal Framework

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### 2.1. Statutory Obligations

2.1.1. All general duties, powers and legislation specifically related to Street Lighting are dealt with in [Volume 1](#) and [Appendix E](#) of this HIAMP.

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## 3. Asset Management Information

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### 3.1. Introduction

- 3.1.1. Asset data management and it's systems are dealt with by the [UKRLG Highway Infrastructure Asset Management Guidance \(HIAMG\)](#), Part B and Part C
- 3.1.2. We operate with the Asset Management System Confirm, which among other assets stores all Street Lighting, Illuminated Signs and Illuminated Bollards.

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## 4. Asset Condition

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### 4.1. Introduction

- 4.1.1. Street Lighting installations shall be the minimum standard for each class of road and designed in accordance with the recommendations contained in BS:5489 -1:2013 and BS EN 13201-2:2013.
- 4.1.2. In the interest of economy during the whole life of a street lighting installation designers shall be permitted to manage reasonable relaxations or departures from the recommendations contained in BS 5489 2013
- 4.1.3. Street lighting associated electrical installations shall comply with: BS 7671 18th edition 2018: The Requirements for Electrical Installations.
- 4.1.4. LED lamps of colour temperature 3000K or below shall be the preferred light source throughout the county.
- 4.1.5. Street Lighting burning hours will normally\* be:

Part Night Lighting:

Dusk to 24:00; then

06:00 to Dawn

Dusk and Dawn switching levels as All Night Lighting

Dimmed Lighting: Depending on road geometry, expected use, traffic volumes and speed:

22:00 to 06:00 dimmed to 75% OR

24:00 to 06:00 dimmed to 75% OR



20:00 to 24:00 dimmed to 75% then to 06:00 dimmed to 50%

Dusk and Dawn switching levels as All Night Lighting

All Night Lighting: Dusk to Dawn 35 LUX on and 18 LUX off

Pedestrian Subway lighting twenty-four-hour operation

\*The UK adjusts clocks between British Summertime and Greenwich Mean Time in the spring and autumn. The lights have individual sensors that monitor the number of daylight hours, which is how they set their internal clock. This is then used to adjust for the change to British Summertime or Greenwich Mean Time. That means the sensors on the part-night lights enter a period of adjustment during spring and autumn, where the lights may start to turn off, or dim, slightly earlier or later than normal. Unfortunately, this is unavoidable but should have little or no impact on safety.

- 4.1.6. To minimise light pollution, lanterns on principal routes shall have a cut off distribution to minimise upward light glow with little or no light emitted above the horizontal.
- 4.1.7. Low energy electronic control gear and photocells shall be used.
- 4.1.8. In dimmed areas the levels of light at the bright and dimmed phases shall be compatible with an appropriate standard derived from BS 5489 – 1: 2020 and BS EN 13201-2: 2015.

## **4.2. Street Lighting on Existing Roads**

- 4.2.1. On existing adopted roads, we will, as far as practicable, ensure our lighting forms a sustainable network by managing energy consumption to a minimum by:
  - A. Working through the following hierarchy for existing street lights wherever practicable, including when lighting comes to the end of its useful life:
    - 1. complete removal of lights and equipment following a period of switch off (as point 2) and a subsequent post switch off assessment. This will be subject to budget constraints
    - 2. turning lights off (subject to a lighting assessment)
    - 3. part night lighting as described in section 4.1.5.
    - 4. dimming lights as described in section 4.1.5.
    - 5. as a last resort, leaving lights fully lit during normal lighting hours
  - B. Only supporting the provision of additional street lights on the existing highway where they are part night lit or dimmed and either:

1. it is in the interest of improving road safety (see [4.3 of this volume](#)) and finance is available from road safety budgets or;
  2. they are paid for as part of a S278 scheme required for a developer to comply with a planning condition and are accompanied by a commuted sum
- C. Considering removal or replacement of existing street lighting, taking account of the hierarchy in A above:
1. when it comes to the end of its useful life and it is financially sustainable in the specific location, considering replacement or removal costs or;
  2. when paid for as part of a S278 scheme required for a developer to comply with a planning condition
- 4.2.2. Our funding for street lighting shall be restricted to publicly maintainable adopted highway. For avoidance of doubt, this includes for new, replacement, improvements to, maintenance of an energy for street lighting.
- 4.2.3. Requests for the addition, removal or replacement of street lights from individuals or community groups will be required to be directed through the relevant Parish Council or where there is no Parish Council the equivalent precept-issuing authority. The same shall apply to requests for the reversal of part night lighting.
- 4.2.4. Where we do not own the street lighting on existing highway, requests for the addition, removal or replacement of the street lights will be forwarded to the owner of the lighting.
- 4.2.5. Subject to engineering constraints we will cooperate with law enforcement agencies and local authority CCTV operators who wish to use street lights as a convenient support and electricity supply point for CCTV camera equipment intended for monitoring possible criminal activities on the highway.

### **4.3. Street Lighting to Improve Road Safety**

- 4.3.1. Improvements will be considered (subject to budget constraints) where there is a night to day accident ratio greater than 2:1 and
- there is a proven accident record over the last three years bearing in mind the causes of the accidents and
  - where there has been a minimum of three separate night-time injury accidents within one kilometre of road and
  - simpler engineering alternatives have been tried and have not been successful
- 4.3.2. Improvements to street lighting for road safety purposes will be subject to the availability of finance from road safety budgets.

#### **4.4. Street Lighting for New Roads and Road Improvements**

- 4.4.1. Street Lighting shall be subject to an assessment incorporating environmental, economic and safety considerations. Major new sections of road will require an economic assessment carried out in accordance with DfT standard TA501 Road Lighting Appraisal. Event sections and conflict areas within the new road or road improvement will require a separate risk assessment.
- 4.4.2. Where it is determined that street lighting is justified on a new section of road the relevant options within the hierarchy described in section 4.2.1 A shall apply.

#### **4.5. Street Lighting for Development Roads**

- 4.5.1. Subject to Section 4.5.5 of this volume, where there is any on the public highway, Street Lighting will normally be provided by the developer and adopted by us under the terms of section 38 or section 278 of the Highways Act 1980 or section 106 of the Town and Country Planning Act 1990.
- 4.5.2. In accordance with highway adoption procedures, lighting installations on proposed highway will be adopted concurrently with the rest of the adoption.
- 4.5.3. The developer will be responsible for all repairs, maintenance and energy charges for Street Lighting Assets (lighting and illuminated signs) until adopted by us.
- 4.5.4. The installation of decorative street lighting equipment may be approved subject to conditions and appropriateness. For further information, including calculation of commuted sums, please refer to our Street Lighting Design Guide.
- 4.5.5. It is our policy that new development (S38) roads will not be lit. However, on payment of an appropriate commuted sum, lighting for footway or placemaking purposes to Annex 6 of the Street Lighting Policy may be adopted.

#### **4.6. Shared Services Provision**

- 4.6.1. The street lighting service has been identified as one in which service provision can be shared between participating authorities.
- 4.6.2. We have established a service level agreement relating to 'Maintenance of Unmetered Open Space Lighting' which sets out the conditions and details of the service provision available to the participating authorities.
- 4.6.3. Participating authorities may be District, Town, City or Borough Councils within Lincolnshire.

- 4.6.4. Participating authorities will retain ownership of their street lights, pay energy charges, meet the full cost of maintenance and replacements, and meet full cost of providing additional lights including connection charges and commuted sums.
- 4.6.5. Participating authorities will meet the full cost of Asset Management Services to maintain accurate electronic asset details and provide regular reporting, such as Half Hourly energy inventories etc.
- 4.6.6. A Shared Services Liaison Group (SSLG) consisting of us and at least one representative from each of the participating authorities will act as a forum to raise issues and generally discuss how further improvements or efficiencies may be gained. The SSLG will aim to meet at least annually.
- 4.6.7. The 'Maintenance of Unmetered Open Space Lighting' agreements will remain in force until at least the termination of our current term maintenance contract for Highway works, with an opportunity for participating authorities to break their agreement annually with a minimum six month notice period.

#### **4.7. Passive Safe Lighting Columns**

- 4.7.1. A passive safe lighting column is designed to yield when it is struck by an errant vehicle thus making the collision less severe.
- 4.7.2. Passive safe columns shall be used in individual circumstances. Please refer to the Street Lighting Design Guide for further information.

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## **5. Inspections**

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### **5.1. Introduction**

- 5.1.1. The regime of street lighting inspection is in accordance with the budget priorities. This forms part of an asset management strategy intended to control cost, stay within the law and apply common sense. They comprise:
- immediate attention to any damage or defects which could result in exposed electrical conductors, unsafe lighting column structures or components hanging loose of by its wires that is liable to fall to the ground;
  - night-time patrols to identify unlit lamps;
  - repair of faulty lights; and
  - routine maintenance inspections and electrical tests

## 5.2. Inspection Frequencies

5.2.1. The table below shows our inspection frequencies for Street Lighting.

Inspection type	Frequency
Night-Time Patrols – all night lighting	Every eight weeks
Night-Time Patrols – part night lighting	Every eight weeks October to March only
Lantern (internal and external)	Lantern cleaning is coincidental with routine maintenance inspections
Routine Maintenance	The routine maintenance frequency is six years. A general condition inspection of the whole unit is carried out at the same time and the lamp is changed if appropriate
Electrical and Structural Testing	Upon commissioning, Street Lighting units are electrically tested in accordance with BS7671 and periodically tested at routine maintenance intervals. New street lighting cable networks will have their electrical earth loop impedance tested at each exit point. Structural defects are noted at the time of routine maintenance. A separate non-destructive structural testing programme is being undertaken

5.2.2. As far as reasonably practicable there is a need to maintain streetlights and illuminated signs to ensure that they are electrically safe, structurally sound, random lamp failures are minimised and to maintain the lumen output of the lamps.

Lamp Type	Description	Expected Burning Hours	Bulk Change Interval
Low Pressure Sodium	SOX+, SOX PSG, SOX HF, SOXE 35w and 55w	16,000	N/A
LED	Light Emitting Diode	80,000	80,000

Lamp Type	Description	Expected Burning Hours	Bulk Change Interval
High Pressure Sodium	SONT, SONE, SONI, SONC, PIA	16,000	25,000
Low Pressure Mercury	MCF/E	12,000	25,000
Compact Fluorescent	PLT PLL PLS	12,000	25,000
Subway Installations	LED	60,000	60,000
Cosmopolis	COP	16,000	25,000

5.2.3. Night Patrol inspections operate on a Summer and Winter route basis. Due to their midnight switch off, there is insufficient time for effective night patrol of part-night operating lights during the summer months due to the length of daylight hours. Only those lights that operate on an all-night basis are patrolled during the April to October summer period. The whole network of both part and all-night lights is patrolled during the winter period between October and April when daylight hours are much shorter.

### 5.3. Defects

5.3.1. The table below shows our defect responses for Street Lighting.

Emergency Defects – Two Hours
<p>These defects are defined as electrical, structural or lighting defects that present an immediate danger to the highway user.</p> <ul style="list-style-type: none"> <li>• accident damage or vandalism where live cables or voltage may be exposed or cause a column to become live</li> <li>• doors open or missing from street lighting columns, illuminated signs or feeder pillars</li> </ul>

### **Emergency Defects – Two Hours**

- lighting point structural defect caused by, RTA, vandalism or bad weather conditions
- column or illuminated signpost collapse or in imminent danger of collapse
- illuminated traffic bollard down or missing
- lanterns on street lighting Columns or illuminated signs hanging by the supply cable
- lantern Bowl hanging

The initial intent of an emergency response is to make safe, wherever possible the defect will be repaired at this time but will likely be de-escalated following intervention for further planned works.

### **Defects requiring repair or report within 22 hours of the contractor's receipt of an instruction**

Defects which are less serious than an emergency and in the case of lighting faults it would be unreasonable to expect the job to be serviced during the hours of darkness.

- both lights on a set of Belisha Beacons inoperative.
- a bowl missing from a Belisha Beacon.
- all lighting out on normally lit street of three or more.
- five or more consecutive lights out on a road.
- both flashing lights on a single post of a school patrol inoperative.
- both lens of school flashers broken
- where a STOP, GIVE WAY or NO ENTRY regulatory sign is missing or facing in the wrong direction.

Operatives will attempt to repair the defect but if unable to do so (due to specialist equipment or parts) will record and report to us with the intent of a future repair as soon as practicable.

### **Defects requiring non routine repairs – 5 day and 10 day response**

Other defects which are not classed as an emergency or urgent, are dealt with in between cyclic routine maintenance visits.

Repairs identified by night patrol from the inspection routes are issued with a five-day response and scheduled during the next working day. The area approach of the repairs from night patrol forms the basis of the non-routine maintenance repairs schedule, and each area is visited at least once every eight weeks.

Other repairs identified by members of public either through the CSC, online, or via apps such as FixMyStreet are issued on a daily basis with a 10-day response. These repairs are scheduled in conjunction with the repairs identified by night patrol, and the longer response time allows them to be attended on an 'ad-hoc' basis by maintenance operatives as they travel to and from other fault repair work.

- lamp out
- light dim or red
- light flickering

### **Defects requiring non routine repairs – one month response**

Defects that are classed as a lower priority, require specific materials with a longer lead-time, or are a follow-up to an initial visit where further fault repair has been identified. Addressing these defects with a one-month priority allows time for specific materials with a longer lead-time to be procured, and the work to be scheduled effectively with a high level of flexibility.

Repairs identified by night patrol or by members of the public either through the CSC, online or via apps such as FixMyStreet classed as lower priority would include:

- general enquiry
- day-burner
- re-align lantern / light unit
- re-align sign plate
- paint back of bowl / fit shield
- remove graffiti (non-offensive)

Repairs identified as requiring specific materials with a longer lead time or are a follow-up to an initial visit where further fault repair has been identified would include:

- out of hours access required



### Defects requiring non routine repairs – one month response

- replace lantern / light unit
- replace sign plate
- replace base compartment door
- new bollard bodyshell
- new number label

- 5.3.2. Electricity supply faults are reported to and restored by the electricity company. The service level is for the supply to be restored within 25 working days from the date the fault is notified to the Electricity Company. In practice, some electricity supply faults may take longer than 25 'calendar' working days to restore where site conditions or other restrictions prevent the Electricity Company accessing the site. In these circumstances, the count of the 25-working day service level 'stops' and resumes again once access to the site is available.
- 5.3.3. Overgrowth of adjacent foliage poses a major risk to the proper operation and visibility of street lighting and traffic signs as well as a safety issue for operatives accessing the equipment.
- 5.3.4. Where an urgent situation develops, for example a fallen tree, this is escalated to the local area Highways team to be dealt with by their emergency response team.
- 5.3.5. Other obstructions involving overgrown foliage are recorded either as a defect during routine night patrols, as and enquiry from our officers or members of the public, or as a follow up reported by operatives attending repair works. Operatives are equipped to carry out light pruning where necessary around lighting lanterns, traffic sign faces and base compartment access doors whilst on site; but they are limited in the amount of foliage they can remove.
- 5.3.6. Where light pruning is not sufficient, the overgrowth is first inspected and then an investigation establishes whether the foliage is from planting within Highway or from private land. If it is found to be from planting within Highway the report is brought to the attention of the local highways officer to be dealt with by the area maintenance teams. Where it is found to be from private land, a standard letter format is prepared and sent to the owner advising them of their legal obligation under section 154 of the Highways Act to remove the overgrowth. After due legal process has been followed and as a last resort, as a Highway Authority the foliage can be removed, and the costs involved recovered from the owner through the courts.

#### 5.4. Cleaning Cycles

5.4.1. Cleaning and inspection of street lighting units coincide with the six-year routine maintenance intervals.

Design equipment category	Cleaning intervals (months)
Street lighting units	72
Traffic sign lighting units	72
Illuminated traffic bollards	12

#### 5.5. Illuminated Traffic Signs and Internally Lit Traffic Bollards

5.5.1. The primary objective is to keep illuminated traffic signs legible, visible and effective. The maintenance regime for illuminated signs and illuminated bollard shells is indicated in the Table below:

Maintenance type	Maintenance interval
Night scouting for illumination	In conjunction with street lighting inspections
Routine maintenance	Interval is six years in conjunction with Street Lighting inspections. 24 hour burning lamps within illuminated bollards are changed every year except for LED lights which burn to extinction.
Inspections, cleaning and electrical testing of illuminated signs and bollards	Takes place during routine maintenance operations.
External cleaning of illuminated bollards	Takes place during routine maintenance operations and annually. Additional cleaning may be dictated by condition.
Replacement and repair of damaged signs and bollards	Respond according to the degree of danger in accordance with 5.3 above.

## Appendix A – Asset Condition Requirements

The following tables set out the nature of contributions made by each element of the network towards safety, serviceability and sustainability.

Condition	Network Safety	Network Serviceability	Network Sustainability
<b>Overall Condition Requirements</b>	complying with statutory obligations; and meeting users' needs for safety.	ensuring availability; achieving integrity; maintaining reliability; resilience; and managing condition	minimising cost over time; maximising value to the community; and maximising environmental contribution
<b>Condition of Carriageways</b>	nature, extent and location of surface defects nature and extent of edge defects nature and extent of surface skidding resistance	nature and extent of surface defects ride quality of the surface resilience of the network	surface noise attenuation characteristics nature and extent of surface defects nature and extent of carriageway deflection usage and verge creep
<b>Condition of Footways</b>	nature, extent and location of surface defects nature and extent of kerb and edging defects	nature and extent of surface defects extent of encroachment and weed growth the level of friction provided by the surface the quality of the surface integrity of the network	convenience and ease of use nature extent and location of surface defects extent of damage by over-running and parking rural footways being lost to grass ingress

Condition	Network Safety	Network Serviceability	Network Sustainability
<p><b>Condition of Cycleways</b></p>	<p>nature, extent and location of surface defects</p> <p>nature and extent of kerb and edging defects</p>	<p>nature and extent of surface defects</p> <p>extent of encroachment and weed growth</p> <p>the level of friction provided by the surface particularly with regard to ironwork</p> <p>the quality of the surface</p> <p>integrity of the network</p>	<p>convenience and integrity of the network</p> <p>nature extent and location of surface defects</p> <p>extent of damage by over-running and parking</p> <p>cycleways being lost to grass ingress or verge creep due to usage</p>
<p><b>Condition of Highways Drainage System</b></p>	<p>accumulation of water on carriageways, footways and cycleways</p>	<p>accumulation of water on carriageways, footways and cycleways</p>	<p>polluted effluent from clearing of highway drainage should not be directed into watercourses</p> <p>authorities have a duty to prevent nuisance and danger to adjoining landowners by flooding and should also work with others in the wider community to minimise the future risk of flooding</p> <p>inadequate drainage of the highway structure will reduce effective life and increase maintenance liability</p> <p>integrity of systems, root ingress, blockage / collapse, exceedance</p>
<p><b>Condition of Embankments and Cuttings</b></p>	<p>risk of loose material falling to injure users or damage facility</p>	<p>risk of damage or service interruption</p>	<p>damage or loss of habitat</p> <p>interruption or pollution of watercourse</p> <p>extent of damage and reduced life</p> <p>integrity of structure</p>

<b>Condition</b>	<b>Network Safety</b>	<b>Network Serviceability</b>	<b>Network Sustainability</b>
<b>Condition of Landscape Areas and Trees</b>	<p>obstruction to user visibility and legibility of traffic signs</p> <p>fallen trees or overgrown vegetation that physically obstructs part of the highway</p> <p>falling branches from trees</p> <p>leaf fall from trees causing slippery surface</p> <p>root growth affecting surface regularity</p>	<p>potential for service interruption</p> <p>quality of user experience</p>	<p>landscape conservation</p> <p>mitigation of climate change effects</p> <p>support for habitat and biodiversity</p> <p>problems of root growth for surface, structure and highway drainage</p> <p>maintaining healthy trees, root severance, ivy clearance</p>
<b>Condition of Fences and Barriers</b>	<p>integrity and location of safety fencing for vehicles, pedestrians and all road users</p>	<p>risk of livestock disrupting traffic</p>	<p>appearance and condition of fencing</p>
<b>Condition of Traffic Signs and Bollards</b>	<p>identification of risk to users</p> <p>separation of potential traffic conflicts</p>	<p>contributes to ease of use</p> <p>contributes to network integrity</p>	<p>support of sustainable transport mode</p> <p>contribution to local economy</p> <p>heavy traffic routing can optimise maintenance</p>
<b>Condition of Road Markings and Studs</b>	<p>route delineation, particularly in darkness and poor weather</p> <p>potential for damage and injury if loose</p>	<p>ease of use, particularly in darkness and bad weather</p>	<p>support of sustainable transport modes</p> <p>edge delineation to reduce edge damage</p> <p>movement of wheel tracking to reduce localised damage</p>
<b>Regulatory Functions</b>	<p>risk to users and adjoining property</p>	<p>minimising and signing of obstruction</p>	<p>inconvenience to disabled people</p> <p>structural damage from parked heavy vehicles</p>

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## Appendix B – Response Times

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The following is a list of response times relating to Highway maintenance activities, which includes but is not limited to items covered in safety inspections. This table forms our risk assessment for intervention levels and response times but in all cases is subject to on-site professional judgement. In all cases these are maximum response times. Any reference to days is calendar days unless otherwise stated.

### Emergency Response

In the notes field, some defects are identified as emergencies. These particular defects have been singled out as particularly high risk and will be dealt with expeditiously but in all cases within 24 hours. They have been identified taking into account the likely risk; risk management always needs to take account of particular circumstances therefore it is possible other situations could be considered as emergencies. Defects notified by the emergency services are also considered to require an urgent response which complies with guidance in the previous Code of Practice *Well Managed Highway Infrastructure*. Although the new Code of Practice no longer stipulates these requirements, we still consider them to be good practice.

### Escalation Process

These timescales commence at the point in time that we have knowledge of the defect. The highways officer then undertakes a risk assessment and as a consequence categorises the defect. The highways officer has the opportunity to escalate a defect to a two hour make safe. The highways officer further has the opportunity to escalate or de-escalate a defect through a risk-assessment and will be required to evidence the reasoning behind the changes made. Timescales are designed to enable highway defects to be, wherever practicable, actioned by a permanent repair.

The table outlining the timescales will at all points be referring to calendar days, not working days

## Carriageways

Categories (mm = depth or height)	Major Road Network	Hierarchy 1	Hierarchy 2	Hierarchy 3	Hierarchy 4	Hierarchy 5	Hierarchy 6	Hierarchy 7	Hierarchy 8
Ironwork collapsed / missing / broken	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours
Ironwork raised / sunken greater than 25mm adjacent a hierarchy 1 and 2 footways	24 hours	24 hours	7 days	7 days	28 days	28 days	90 days	Potential Planned Programme	Potential Planned Programme
Ironwork raised / sunken greater than 40mm	24 hours	24 hours	7 days	7 days	28 days	28 days	90 days	Potential Planned Programme	Potential Planned Programme
Ironwork raised / sunken less than or equal to 25mm	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme
Pothole greater than 25mm adjacent a hierarchy 1 or 2 footway	24 hours	24 hours	7 days	7 days	28 days	28 days	90 days	Potential Planned Programme	Potential Planned Programme

<b>Categories (mm = depth or height)</b>	<b>Major Road Network</b>	<b>Hierarchy 1</b>	<b>Hierarchy 2</b>	<b>Hierarchy 3</b>	<b>Hierarchy 4</b>	<b>Hierarchy 5</b>	<b>Hierarchy 6</b>	<b>Hierarchy 7</b>	<b>Hierarchy 8</b>
<b>Pothole greater than 40mm</b>	24 hours	24 hours	7 days	7 days	28 days	28 days	90 days	Potential Planned Programme	Potential Planned Programme
<b>Pothole less than or equal to 40mm</b>	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme
<b>Other abrupt level difference greater than 40mm</b>	24 hours	24 hours	7 days	7 days	28 days	28 days	90 days	Potential Planned Programme	Potential Planned Programme
<b>Edge damage greater than 40mm breaking edge white line</b>	24 hours	24 hours	7 days	7 days	28 days	28 days	90 days	Potential Planned Programme	Potential Planned Programme
<b>Edge damage greater than 40mm encroaching more than 100mm into metalled surface (no white line)</b>	24 hours	24 hours	7 days	7 days	28 days	28 days	90 days	Potential Planned Programme	Potential Planned Programme



<b>Categories (mm = depth or height)</b>	<b>Major Road Network</b>	<b>Hierarchy 1</b>	<b>Hierarchy 2</b>	<b>Hierarchy 3</b>	<b>Hierarchy 4</b>	<b>Hierarchy 5</b>	<b>Hierarchy 6</b>	<b>Hierarchy 7</b>	<b>Hierarchy 8</b>
<b>Edge damage less than or equal to 40mm</b>	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme
<b>Missing/Defective road studs</b>	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme
<b>Severe loss of chippings on carriageway surface</b>	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme
<b>Surface issues (non-winter maintenance)</b>	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme

\*Highways officers' decision to instigate the make safe process = two-hour response for all response times. Officers will be given the opportunity to escalate or de-escalate a defect dependant on a risk-assessment (see above).

## Footways

Categories	Hierarchy 1	Hierarchy 2	Hierarchy 3	Hierarchy 4
<b>Ironwork Collapsed/missing/broken</b>	24 hours	24 hours	24 hours	24 hours
<b>Pothole greater than 25mm</b>	24 hours	24 hours	24 hours	24 hours
<b>Ironwork raised/sunken greater than 25mm</b>	24 hours	24 hours	24 hours	24 hours
<b>Trip greater than 25mm</b>	24 hours	24 hours	24 hours	24 hours
<b>Loose/Rocking/missing kerb stone</b>	24 hours	7 days	7 days	28 days
<b>Pothole Less than or equal to 25mm</b>	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme
<b>Trip less than or equal to 25mm</b>	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme
<b>Ironwork raised/sunken less than or equal to 25mm</b>	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme

\*Highways officers' decision to instigate the make safe process = two-hour response for all response times. Officers will be given the opportunity to escalate or de-escalate a defect dependant on a risk-assessment (see above).

## Obstruction

Categories	Major Road Network	Hierarchy 1	Hierarchy 2	Hierarchy 3	Hierarchy 4	Hierarchy 5	Hierarchy 6	Hierarchy 7	Hierarchy 8
<b>Fuel spillage or hazardous material on the highway</b>	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours
<b>Fallen tree/dangerous branch on the highway</b>	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	7 days
<b>Road Traffic Collision</b>	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours
<b>Visibility splays</b>	7 days	7 days	7 days	7 days	28 days	90 days	90 days	90 days	Potential Planned Programme
<b>Overgrown trees/hedges</b>	28 days	28 days	28 days	28 days	28 days	90 days	90 days	90 days	Potential Planned Programme

\*Highways officers' decision to instigate the make safe process = two-hour response for all response times. Officers will be given the opportunity to escalate or de-escalate a defect dependant on a risk-assessment (see above).

## Drainage

Categories	Major Road Network	Hierarchy 1	Hierarchy 2	Hierarchy 3	Hierarchy 4	Hierarchy 5	Hierarchy 6	Hierarchy 7	Hierarchy 8
<b>Standing Water: over half carriageway</b>	24 hours	24 hours	24 hours	24 hours	24 hours	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme
<b>Standing Water: under half carriageway</b>	7 days	7 days	7 days	7 days	28 days	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme

\*Highways officers' decision to instigate the make safe process = two-hour response for all response times. Officers will be given the opportunity to escalate or de-escalate a defect dependant on a risk-assessment (see above).

## Signs and Lines

Categories	Major Road Network	Hierarchy 1	Hierarchy 2	Hierarchy 3	Hierarchy 4	Hierarchy 5	Hierarchy 6	Hierarchy 7	Hierarchy 8
<b>Missing or damaged non illuminated Stop, One Way, No Entry, Give Way or other sign type that provides an enforced message or reflects a TRO</b>	7 days	7 days	7 days	7 days	28 days**	90 days**	90 days**	90 days**	Potential Planned Programme
<b>Missing or damaged non illuminated other sign</b>	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme
<b>Damaged or missing non-illuminated street furniture (our asset)</b>	7 days	7 days	7 days	7 days	28 days	90 days	90 days	90 days	Potential Planned Programme
<b>Give Way / stop line deteriorating</b>	7 days	7 days	7 days	7 days	28 days**	90 days**	90 days**	90 days**	Potential Planned Programme

Categories	Major Road Network	Hierarchy 1	Hierarchy 2	Hierarchy 3	Hierarchy 4	Hierarchy 5	Hierarchy 6	Hierarchy 7	Hierarchy 8
<b>Markings deteriorating</b>	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme	Potential Planned Programme
<b>Offensive graffiti or vandalism to street furniture (our asset)</b>	90 days	90 days	90 days	90 days	90 days	90 days	90 days	Potential Planned Programme	Potential Planned Programme

\*Highways officers' decision to instigate the make safe process = two-hour response for all response times. Officers will be given the opportunity to escalate or de-escalate a defect dependant on a risk-assessment (see above).

\*\* Unless the minor road is part of a priority junction with a Principal Road – where seven days will apply.

### Verges

Categories	Major Road Network	Hierarchy 1	Hierarchy 2	Hierarchy 3	Hierarchy 4	Hierarchy 5	Hierarchy 6	Hierarchy 7	Hierarchy 8
<b>Collapsed verge</b>	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	24 hours	Potential Planned Programme	Potential Planned Programme

\*Highways officers' decision to instigate the make safe process = two-hour response for all response times. Officers will be given the opportunity to escalate or de-escalate a defect dependant on a risk-assessment (see above).

## Appendix C – Future Maintenance Factors

This Table provides factors to consider by designers during the design process, to ensure that adequate consideration is given to future maintenance requirements of schemes. The list is not exhaustive but includes a number of key issues that may need to be addressed.

### Scope and Scale

Issue	Check	Action
Intended life of scheme	Is the scheme long life or 'temporary' and likely to be affected by future redevelopment?	Choose materials and products relevant to the life of scheme.
Nature of scheme	Is the scheme a 'unique' prestige project or a 'routine' standard one?	Choose materials and products relevant to the type of scheme.
Scope of scheme	Has the scheme been 'value-managed' to consider all possible marginal benefits?	All 'significant' schemes should be value managed.
Use of scheme	Is the scheme likely to be subjected to particularly 'heavy duty' traffic use with high rates of wear?	Select design and materials to mitigate these affects so far as possible.
Cost of scheme	Have the costs of future maintenance been calculated and included in future budgets?	Identify any extraordinary maintenance costs and report these alongside construction costs.

### Design Aspects

Issue	Check	Action
Pedestrians and cyclists	Do footways and cycleways fit the actual paths used?	Redesign to reflect actual paths to avoid erosion and later replacement.
Heavy goods vehicles	Is footway paving likely to be over-ridden by HGV or other parked vehicles?	Where necessary use heavy duty paving or prevent over-riding to avoid frequent costly replacement.

<b>Issue</b>	<b>Check</b>	<b>Action</b>
Grassed and planted areas	Are grassed and planted areas of a size and position to be effectively maintained?	Redesign or remove where necessary to avoid future poor appearance and later resign.
Trees	Have trees been selected and positioned to avoid future problems with roots, obstruction or leaf fall?	Reselect or reposition where necessary to avoid potentially expensive future problems.
Traffic signs	Are traffic signs required to be illuminated or can they be reflectorised?	Maximise use of reflective signs to reduce energy costs.

### **Maintenance Operations**

<b>Issue</b>	<b>Check</b>	<b>Action</b>
Maintenance regime	Does the scheme require specialist maintenance regime?	Identify cost of specialist regime and, where appropriate, consider cheaper alternatives.
Cleansing	Does the scheme require specialist cleansing regime?	Identify cost of specialist regime and, where appropriate, consider cheaper alternatives.
Traffic management	Will maintenance require special traffic management?	Identify traffic management costs and minimise wherever possible, possible through co-ordination with other works.
Maintenance access	Is there safe and convenient access for plant and personnel?	Redesign scheme to provide safe and convenient access.



## Materials and products

Maintenance Operations	Maintenance Operations	Maintenance Operations
Specialist materials	Are the materials used for the scheme of standard or specialist nature?	If specialist materials used ensure availability of future replacements.
Durability of materials	Does the durability of the materials provide substandard, oblique, sufficient or excessive life?	Select materials relevant to the intended life and nature of the scheme.
Failure mechanism	How will material or product approach the failure condition – slowly or quickly?	Programme safety and service inspections on basis of risk assessment.
Life extension	Are there any processes which could be used to extend useful service life at economic cost?	Investigate cost benefit of using life extension products.
Replacement practicability	Are there likely to be any difficulties in replacing failed sections?	Undertake risk assessment and plan for the likely difficulties.
Replacement cost	Is the cost of replacement likely to be disproportionately high?	Consider alternative materials or products.

## Reuse and Recycling

Materials and products	Materials and products	Materials and products
Practicability of reuse	If the scheme is a short life scheme what is the scope reusing materials and products?	Choose re-useable materials and products wherever possible.
Practicability of recycling	What is the scope for recycling materials and products?	Where re-useable materials and products are not appropriate, use recyclable wherever possible.

## Appendix D – Glossary

For the purposes of the HIAMP, publicly understood definitions are used for the major parts of the highway. There are also various differences in definitions across the various legal systems in the UK that would be inappropriate to repeat at length. In such cases the English term is used. The table below highlight the main relevant definitions.

<b>Term</b>	<b>Definition</b>
<b>Highway</b>	Road or Street
<b>Carriageway</b>	Facilities used by motorised vehicles
<b>Footway</b>	Part of a highway over which the public have a right of way on foot only, e.g., segregated surfaced paths used by pedestrians. Commonly understood as the term pavement
<b>Pavement</b>	Footway
<b>Remote Footway</b>	A footway which is not immediately adjoining a carriageway
<b>Housing Footway</b>	Footways that predominantly serve housing areas which may be unadopted as public highways but have established public rights of access and may be maintained separately by the housing authority
<b>Footpath</b>	Known as majority of Public Rights of Way (PROW)
<b>Cycleway</b>	Facilities used by cyclists. These include cycle lanes on carriageways, cycle tracks adjacent to or away from carriageways, on carriageway provision with cycle symbols and shared use facilities
<b>Running Surface (Industry term)</b>	All hardened surfaces within the highway, including carriageways, footways and cycleways
<b>Pavement (Industry term)</b>	Construction of running surfaces, particularly carriageways
<b>Safety Inspections</b>	Designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. The risk of danger is assessed on site and the defect identified with an appropriate priority response. We combine our Safety and Service inspections into one overlapping inspection regime.

Term	Definition
<b>Service Inspections</b>	Contains detailed inspections tailored to the requirements of particular highway assets and elements to ensure that they meet requirements for serviceability. These inspections also include inspections for network integrity intended to maintain network availability and reliability.
<b>Condition Surveys</b>	Recommended to identify deficiencies which, if untreated, are likely to adversely affect long term performance, serviceability and safety. Survey data is processed through a bespoke Lincolnshire decision support system which can provide evidence of future life expectancy and for when intervention may be appropriate.
<b>Bridge</b>	A structure with a span equal to or greater than 1.5m spanning and providing passage over an obstacle, e.g., watercourse, railway, road, valley. This category also covers subways, footbridges and underpasses
<b>Cantilever Road Sign</b>	A structure with a single support that projects over the highway in order to carry a traffic sign
<b>Cellar or Vault</b>	An underground room or chamber with a maximum plan dimension of 1.5m or more
<b>Culvert</b>	A drainage structure with a span or diameter greater than or equal to 0.6m but less than 1.5m passing beneath a highway embankment that has a proportion of the embankment, rather than a bridge deck, between its uppermost point and the road running courses. Culverts are normally rectangular or circular in cross section
<b>Drainage</b>	Span or diameter less than 0.60m
<b>Retaining Wall</b>	A wall associated with the highway where the dominant function is to act as a retaining structure, and with a minimum retained height of 1.35m
<b>Road Tunnel</b>	A tunnel with an enclosed length of 150m or more through which a road passes
<b>Sign or Signal Gantry</b>	A structure spanning the highway, the primary function of which is to support traffic signs and signalling equipment

Term	Definition
<b>General Inspection (Structures)</b>	A visual inspection of representative parts of the structure. These are carried out on all structures regardless of ownership
<b>Principal Inspection (Structures)</b>	A close inspection (within one metre) of all visible parts of the structure. Specialist access equipment may be required in some cases. Carried out on all County owned structures with a span greater than or equal to five metres. Structures with spans less than five metres will be subject to a risk assessment.
<b>Special Inspection (Structures)</b>	These include a programme of bridges to be monitored following an assessment failure or where there is some on-going movement. In addition, there is a programme of diving inspections where structures are known to be at risk from the effects of scour.
<b>Acceptance Inspection (Structures)</b>	A Principal Inspection which includes the identification of any permanent access provisions and features affecting the safety and security of the structure. It further outlines the identification and handover of all the necessary records, maintenance and operating manuals which have an impact on the future management of the structure; and shows an agreement of the date on which the authority takes over responsibility for the structure.

## Appendix E – Legislation and Guidance

### Vol 1 – Overarching Principles

Legislation and Guidance	Definition
<b>Health and Safety at Work Act 1974</b>	Provide a requirement for highway, traffic and street authorities to carry out work in a safe manner and establish arrangements for the management of construction works.
<b>Construction (Design and Management) Regulations 2015</b>	Provide a requirement for highway, traffic and street authorities to carry out work in a safe manner and establish arrangements for the management of construction works.
<b>Localism Act 2011</b>	Provides local authorities the power, with certain limitations, to do anything that individuals generally may do for the benefit of the authority, its area, or persons resident or present in its area. It also introduced measures such as the community right to challenge.
<b>Local Government Act 2000</b>	Duty of best value and aims to improve local services in terms of both cost and quality. The following points must be taken into consideration: Statutory basis Local Government Act 1999 Best Value Performance Plans Reviews of all services on five-year cycle Statutory Inspection by Audit Commission Statutory Framework of Best Value Performance Indicators
<b>Highways Act 1980</b>	Sets out the main duties and powers of Highway Authorities.
Section 41	Duty to maintain highways maintainable at public expense. Almost all claims against authorities relating to highway functions arise from alleged breach of this section
Section 58	Defence against action relating to alleged failure to maintain
<b>Traffic Management Act 2004</b>	Sets out a number of provisions including National Highways Traffic Officers, local authority duty for network management, permits for work on the highway, increased control of utility works, and increased civil enforcement of traffic offences

Legislation and Guidance	Definition
<b>New Roads and Streetworks Act 1991</b>	Provides a legislative framework for street works by undertakers (including utility companies) and gives various companies and agencies statutory powers and obligations to work in the highway
<b>Countryside and Rights of Way Act 2000</b>	Authorities are required to maintain records and ensure that ways are adequately signposted, maintained and free from obstruction.
<b>Road Traffic Regulation Act 1984</b>	Provides the powers to regulate or restrict <b>TRAFFIC</b> on UK <b>ROADS</b> , in the interest of safety
<b>Traffic Signs Regulations and General Directions 2016</b>	Prescribes the design and conditions of use of traffic signs on or near roads in England, Scotland and Wales.
<b>Road Traffic Act 1988</b>	Provides a duty for Highway Authorities to promote road safety, including a requirement to undertake accident studies and take such measures as appear appropriate to prevent accidents occurring
<b>Road Traffic Reduction Act 1997</b>	Imposes a duty upon local authorities to make reports about traffic levels and anticipated growth in those levels in order to set targets for traffic reduction or at least a reduction in the growth rate
<b>Flood and Water Management Act 2010</b>	Aims to reduce the flood risk associated with extreme weather. Provides for better, more comprehensive management of flood risk for people, homes and businesses
<b>Transport Act 2000</b>	Designation of quiet lanes or a home zone
<b>Wildlife and Countryside Act 1981</b>	Environmental and countryside issues with which highways operations must comply
<b>Environmental Protection Act 1990</b>	Provides the statutory basis for other environmental issues, in particular waste management, with which highway maintenance operations must comply
<b>Clean Neighbourhoods and Environment Act 2005</b>	Provides local authorities with more effective powers to tackle poor environmental quality and anti-social behaviour
<b>Equality Act 2010</b>	Legally protects people from discrimination in the workplace and in wider society

<b>Legislation and Guidance</b>	<b>Definition</b>
<b>Criminal Justice and Public Order Act 1994</b>	
<b>Human Rights Act 1998</b>	Sets out the fundamental rights and freedoms that everyone in the UK is entitled to
<b>Freedom of Information Act 2000</b>	Provides public access to information held by public authorities, who are obliged to publish certain information about their activities. Also, members of the public are entitled to request information from public authorities
<b>Civil Contingencies Act 2004</b>	Delivers a single framework for civil protection in the UK

Some definitions taken from <http://www.legislation.gov.uk>

## **Vol 2 - Highways**

<b>Legislation and Guidance</b>	<b>Definition</b>
<b>Highways Act 1980</b>	Sets out the main duties of Highway Authorities in England and Wales
Section 41	Duty to maintain highways maintainable at public expense
Section 58	Defence against action relating to alleged failure to maintain
Section 102	Provision of works for protecting highways against hazards of nature
Section 130	Duty to assert and protect the rights of the public
Section 150	Duty upon authorities to remove any obstruction of the highway resulting from 'accumulation of snow or from the falling down of banks on the side of the highway, or from any other cause'
Section 154	Empowers the authority to deal, by notice, with hedges, trees and shrubs growing on adjacent land which overhang the highway, and to recover costs
Section 239	Acquisition of land for construction, improvement etc. of highway: general powers

<b>Legislation and Guidance</b>	<b>Definition</b>
Section 240	Acquisition of land in connection with construction, improvement etc. of highway: further general powers
Section 250	Land acquisition powers to extend to creation as well as acquisition of rights
<b>Traffic Management Act 2004</b>	Duty for all local traffic authorities in England to manage the network effectively to keep traffic moving
<b>New Roads and Street Works Act 1991</b>	Provides a legislative framework for street works by undertakers (including utility companies) and works for road purposes – to the extent that these must be co-ordinated by street authorities.
<b>Roads (Scotland) Act 1984</b>	Duty for local roads authorities to keep a list of ‘public roads’ and to maintain and manage them
Section 34	A road authority shall take such steps as it considers reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads
Sections 88 and 92	Give roads authorities the responsibility to remove projections which impede or endanger road users, and provide restrictions on planting of trees near carriageways
<b>Railways and Safety Transport Act 2003</b>	To make provision about railways, including tramways; to make provision about transport safety; and for connected purposes.
<b>Roads (Northern Ireland) Order 1993 SI 1993/3160 (NI 15)</b>	
Article 10	Duty for the Department for Infrastructure to remove snow, soil etc which has fallen on a road
Section 9	Enables the authority to take such action as it considers reasonable to prevent snow or ice interfering with the safe passage of persons and vehicles using the road
<b>UKRLG Highway Infrastructure Asset Management Guidance</b>	



<b>Legislation and Guidance</b>	<b>Definition</b>
<b>The Weeds Act 1959</b>	Empowers DEFRA to serve notice requiring an occupier of land to take action to prevent the spread of certain specified weeds
<b>Wildlife and Countryside Protection Act 1981 – Section 14</b>	This makes it an offence, liable to a fine, to plant or otherwise cause to grow in the wild, certain specified weeds
Section 53	Duty to keep the Definitive Map & Statement up to date
<b>Countryside Act 1968 (Section 27)</b>	Duty to signpost public rights of way

### Vol 3 – Structures

<b>Legislation and Guidance</b>	<b>Definition</b>
<b>Highways Act 1980</b>	Sets out the main duties of Highway Authorities in England and Wales
Section 41	Duty to maintain highways maintainable at public expense
Section 55	Adoption by the strategic Highway Authority of all private bridges for Trunked roads
Section 75(2)	Where any part of a highway is carried by a bridge over a railway, canal, inland navigation, dock or harbour or forms the approaches to such a bridge, the powers conferred by this section shall not be exercised in relation to that part without the consent of the railway, canal, inland navigation, dock or harbour undertakers concerned.
Section 91	Construction of bridge to carry existing highway maintainable at public expense.
Section 92	Reconstruction of bridge maintainable at public expense.
Section 93	Power to make orders as to reconstruction, improvement, etc., of privately maintainable bridges
Section 94	Powers of highway authorities and bridge owners to enter into agreements

<b>Legislation and Guidance</b>	<b>Definition</b>
Section 95	Supplemental provisions as to orders and agreements under sections 93 and 94
Section 106	Orders and schemes providing for construction of bridges over or tunnels under navigable waters
Section 110	Power to divert non-navigable watercourses and to carry out other works on any watercourse
Section 111	Bridges under the highway
Section 167	Powers relating to retaining walls near streets
Section 176	Licences for bridges over the highway
Section 179	Control of construction of cellars etc. under street
Section 180	Control of openings into cellars etc. under streets, and pavement lights and ventilators
Section 271	Provisions with respect to transfer of toll highways to highway authorities
<b>Local Government Act 1972</b>	Advises limited flexible powers for local authorities to provide certain archives services
<b>Trunk Roads Act 1946 – Section 7</b>	Adoption by the strategic Highway Authority of all private bridges for Trunked roads
<b>The Transport Act 1968 – Part VIII</b>	Bridges and level Crossings etc
<b>Traffic Signs Manual Chapter 4</b>	Warning Sign Guidance
<b>The Railway Bridges (Load Bearing Standards) (England and Wales) Order 1972 (SI 1072 No. 1705)</b>	Load-bearing standards
<b>ADEPT/Network Rail Protocol</b>	Minimising risk of bridge strikes
<b>BS EN 1991-2</b>	Models of traffic loads for the design of road bridges, footbridges and railway bridges

<b>Legislation and Guidance</b>	<b>Definition</b>
<b>Road Traffic Regulation Act 1984 – Section 1 and 2</b>	Weight Restriction Orders
<b>The Road Vehicles (Construction and Use) Regulations 1986 or the Road Vehicles (Authorised Weight) Regulations 1998</b>	
<b>CS 454</b>	Weak Bridge warning signs and other appropriate mitigating solutions Guidance Document
<b>Roads (Scotland) Act 1984 – Section 66</b>	Maintenance of vaults and cellars etc.
<b>Coast Protection Act 1949 as amended by Section 36 of the Merchant Shipping Act 1988</b>	Safety of navigation
<b>Food and Environmental Protection Act 1985 Part II</b>	Deposits in the sea
<b>Party Wall Act 1996</b>	Requires the issue of statutory notices when work affects adjacent properties within three metres of any construction works or within six metres if affecting foundation support
<b>Climate Change Act 2008</b>	Sets national targets for the year 2050 for the reduction of greenhouse gas emissions
<b>Planning (Listed Building and Conservation Areas) Act 1990</b>	Requires each authority to compile a list of buildings of special interest, either historic or architectural

#### **Vol 4 – Street Lighting**

<b>Legislation and Guidance</b>	<b>Definition</b>
<b>Highways Act 1980</b>	Sets out the main duties of Highway Authorities in England and Wales
Section 97	Empowers us to light any highway or proposed highway however does not have a duty to provide lighting for highway

<b>Legislation and Guidance</b>	<b>Definition</b>
Section 38/278	Street Lighting will normally be provided by the developer and adopted by us. On section 38 schemes, street lighting shall be part-night lit
<b>Public Health Act 1961</b>	
Section 45	Attachment of street lamps to buildings
Section 81	Summary recovery of damages for negligence
<b>Roads (Northern Ireland) Order 1993 – Article 44</b>	Grants the Department for Infrastructure the power to provide road lighting, where the Department considers that any road should be illuminated.
<b>Roads (Scotland) Act 1984 – Section 35</b>	Empowers a local roads authority to provide lighting for roads, or proposed roads, which are, or will be, maintainable by them and which in their opinion ought to be lit.
<b>New Roads and Street Works Act 1991</b>	Enabling act setting out the duties of Street Authorities to coordinate and regulate works carried out in the highway
<b>Electricity Safety, Quality and Continuity Regulations 2002</b>	Recording of all underground cables
<b>Code of Practice for Recording of Underground Apparatus in Streets.</b>	Recording of all underground cables
<b>Clean Neighbourhoods and Environment Act 2005 – Section 102</b>	States that artificial light is a potential statutory nuisance
<b>Conservation (Natural Habitats, &amp;c) Regulations 1994</b> <b>2007 European Protected Species of Plants and Animals</b>	Protected species on artificial lights receive protection under these legislations. Care needs to be taken not to disturb the animals themselves or their roosts and habitats. Guidance is Available from the Bat Conservation Trust and the Institution of Lighting Professionals.
<b>Traffic Management Act 2004</b>	Local Authorities have a duty to enforce network management for the maintenance of records and information (e.g., including records and locations of apparatus) and to inspect the records

Legislation and Guidance	Definition
<b>Climate Change Act 2008</b>	<p>Empowers the government to set national targets for the year 2050 for the reduction of greenhouse gas emissions and to encourage energy users to meet the objectives of the Act, such as reducing such emissions or removing greenhouse gas from the atmosphere.</p> <p>The Act also introduces legally binding carbon budgets, which set a ceiling on the levels of greenhouse gases that can be emitted into the atmosphere. The ensuing Carbon Reduction Commitment was renamed to CRC Energy Efficiency Scheme.</p>
<b>Crime and Disorder Act 1998 – Section 17</b>	<p>Duty to consider crime and disorder implications. The Crime and Disorder Act does not apply to Scotland or Northern Ireland.</p>
<b>Traffic Signs Regulations and General Directions 2016</b>	<p>Prescribes the design and conditions of use of traffic signs on or near roads in England, Scotland and Wales.</p>
<b>Civic Amenities Act 1967</b>	<p>Gave legislative control to the protection of conservation areas which are defined as - ‘an area of special architectural or historic interest, the character or appearance of which it is desirable to preserve or enhance.’</p>
<b>Electricity at Work Regulations 1989</b>	<p>Requires all systems to be constructed, maintained and operated as is reasonably practicable to prevent danger.</p>
<b>BS 7671 Requirements for Electrical Installations</b>	<p>States that installations which conform to the standards laid down in BS 7671:2018 are regarded by HSE as likely to achieve conformity with the relevant parts of the Electricity at Work Regulations 1989</p>
<b>Regulation 16 of the Electricity at Work Regulations</b>	<p>States that “No person shall be engaged in any work activity where technical knowledge or experience is necessary to prevent danger or where appropriate, injury, unless he possesses such knowledge or experience, or is under such degree of supervision as may be appropriate having regard to the nature of the work”</p>

## Appendix F – Action Plan

Action Name	Description	Timescale
Review Footways	Consider footway hierarchies, defects, response times and maintenance strategy.	Oct-23
Cycleway Focus	Identify cycleway locations, consider establishing unique asset identification and review defect categories and response times.	Oct-23
Response Times Development	Continually monitor suitability of current response times and deal with any requests for change.	Ongoing
Boundary Alignment	We will continue to engage with all neighbouring authorities to ensure all surrounding authorities are aware of the boundary roads and each other's response times.	Ongoing
Drainage Asset Capture – develop targeted approach	Continue to improve the targeted approach to drainage and gully cleansing with contingency for flooding or prolonged periods of rain. To capture more data	Ongoing
HIAMP 'lite'	Provide smaller information booklet for officers for ease of use on site or through tablet viewing.	Apr-22
Standards and Enforcement Plan	Continue to develop a Standards and Enforcement Plan	Apr-22
Safety and Service Inspections	Monitor effectiveness of real time risk assessment and works ordering through handheld devices both for inspectors and contractor side.	Apr-22
Annual Review of Highways Asset Management	Publish the 1 <sup>st</sup> of the annual review of Highways Asset Management	Apr -23
Resilient Network Review	Full review of the Resilient Network	Jul - 23
Network and Traffic Management Plan	Full review of the Network and Traffic Management Plan along with the Speed Limit Policy, Traffic Calming Guidance and Traffic Regulation Order Policy	Apr - 23

Highway Policy Review	Commence a review of all policies, strategies and plans within highways ensuring that all are still relevant, up to date and published in the relevant places	Dec - 23
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## **Appendix B**

### **Summary of Changes to the Highways Infrastructure Asset Management Plan (HIAMP) 2022**

There are a number of changes to operational policy from the previous iteration (2021). A brief explanation below of some of the overarching themes of policy that are consistently under review as part of our approach to Asset Management.

#### **Functional Hierarchies**

Our system of categorising carriageways and footways for their individual level of priority based on functionality, usage and other factors. This applies to all different types of assets at these locations.

Full explanation at 4.2 of volume 1 of the HIAMP 2022. p15.

#### **Carriageway and Footway Surveys**

Asset data from these surveys factor heavily into our scheme prioritisation, allowing us to project future deterioration and intervene appropriately at the right time. The data is stored in our CONFIRM Asset Management system.

Full explanation at 4.3 of volume 2 of the HIAMP 2022. p34.

#### **Inspections**

Regular inspections we undertake on assets as part of the highway network, frequency is based on many factors based on the asset type but is often dictated by the Hierarchy as referenced above.

Various inspections are covered through the documents, but for specific. HIAMP 2022

Volume 1 – 6.3 p28.

Volume 2 – 5.1 p48.

Volume 3 – 5.1 p68.

Volume 4 – 5.1 p86.

#### **Response times and Intervention levels**

Our response times are based on the functional hierarchy of the road or footway at the location of a defect, using agreed intervention levels at which point a defect is deemed in need of repair due to safety Officers are enabled to undertake a full risk assessment for each defect and escalate or de-escalate as necessary.

See Appendix B of the HIAMP p 95 - 103

## **Minor Changes**

A full review of the 2021 HIAMP has been undertaken and the following amendments have been made

## **Changes throughout**

- Content written in first person (We) not third person (Lincolnshire County Council)
- Dates amended from 2021 to 2022
- Highways Asset Management Strategy amended to Highways 'Infrastructure' Asset Management Strategy
- Winter 'Maintenance' Plan amended to Winter 'Service' Plan
- Cycle 'routes' amended to 'cycleways'
- All references to DVI Inspections removed
- Well 'Maintained' Highways – Code of Practice amended to Well 'Managed' Highways – Code of Practice
- 'Highways England' amended to 'National Highways'
- Hyperlinks to other documents added
- Network Management Plan amended to Network 'and Traffic' Management Plan
- Volumes 0, 1, 2 and 3 amended to 1, 2, 3 and 4

Note: The paragraph numbers identified in brackets below relate to paragraph numbers in the 2021 HIAMP

## **Volume 1 – Overarching Principles**

- 2.2.1 'Communication Policy and Strategy' amended to 'Community Engagement Policy and Community Engagement Strategy' and Customer 'Communication' and Liaison Strategy amended to Customer 'Engagement' and Liaison Strategy
- 4.2.4 Road network length updated to 9240 Km
- 4.3.2 (4.3.1) Carriageway 'Category' amended to Carriageway 'hierarchy'
- 4.4.2 (4.4) Footway 'Category' amended to Footway 'hierarchy'
- 4.5.2 Drainage added to list of assets
- 5.1.9 (5.2.1) Previous section 5.2.1 moved to 5.1.9
- 5.1.10 (5.1.9) Information Assurance Policy amended to Information 'Governance' Policy
- 5.2.1 (5.2.2) Databases updated to include Location Centre, QGIS, Treewise and IMTRAC
- 5.3.4 – 5.3.8 Additional paragraphs added to provide information on the Digital Transformation Strategy that Technical Services Partnership (TSP) are working towards to be ISO 19650 compliant

- 6.4.2 Reference to Category 1 removed
- 6.4.3 Reference to Category 2 removed
- 7.2.1 Drainage added to list of assets

## **Volume 2 - Highways**

- 4.3.4 Team name 'Asset Management Team' updated to 'Highway Asset Data Team', responsibilities amended from 'producing plans' to 'publishing layers'  
  
Amendments to table:  
SCANNER - Inspection Frequency amended  
CVI - Scope & Inspection Frequency sections amended
- 4.4.4 Text amendment to say currently reviewing how Public Right of Way asset data is collected
- 4.5.1 Final paragraph regarding roadside gullies amended from being 'cleaned once a year on a targeted approach' to 'cleansed on a risk based targeted approach'
- 4.5.2 Updated to show that gullies & kerb offlets will be cleansed on a risk based targeted approach whilst catch-pits will be cleansed once per year on a cyclic basis
- 4.5.9 Frequency of cleanse updated for gullies, catch-pits and offlets
- 4.7.8 (4.7.7) 'Risk based Inspection' amended to 'inspection and investigation' and additional information regarding defect reporting of overgrown foliage added
- 4.9.2 Last sentence regarding the five year review of the signing regime for Hierarchy 1, 2 and 3 removed
- 4.9.3 Paragraph reworded
- (4.9.5) Paragraph regarding Large Advances Direction Signs (ADS) removed
- 4.9.6 (4.9.7) Extra information regarding LRSP added to the end of the paragraph
- 4.9.7 (4.9.8) Information regarding third party funding added to the end of the paragraph and Route Reviews removed from the table
- 4.11.1 Examples of site hardware added
- 4.11.4 'HI' added before 'Lamp Changing'
- 5.2.4 Reference to Safety Inspections and Service Inspections removed
- (5.2.6) Paragraph 5.2.5 referencing category 2 defects removed
- 5.3.1 Paragraph amended to show carriageway & footway inspections are established independently
- 5.4.2 Final part of paragraph removed

- 5.4.3 'Roadway' amended to 'carriageway and footway'
- 5.5.1 'Roadway' amended to 'carriageway and footway', reference to inspection schedules based upon hierarchy removed and example amended to 'all controlled crossings'
- (5.5.2) Paragraph removed to align with amendment at 5.5.1
- (5.5.3) Paragraph removed to align with amendment at 5.5.1
- 5.5.2 (5.5.4) Paragraph amended to include slabbed/modular footway inspections
- 5.5.4 (5.5.6) First 4 comments removed and comment for Schedule 4DA amended
- (5.5.7) Paragraph removed
- (5.5.9) Paragraph removed
- 5.10.2 Wording amended from 'half or more' to 'any' fastening points
- 5.10.3 Final sentence regarding defects removed - covered in Appendix B as something that would fall within safety inspections
- 5.10.4 First sentence amended to 'signs that display a message which can be subject to enforcement'
- 5.10.7 Extra information regarding LRSP added
- 5.10.8 Reference to night inspections removed
- 5.12.3 Amendments to timescales at 3rd bullet point and 4<sup>th</sup> bullet regarding less urgent faults removed
- 6.4.4 'Cleaning' amended to 'Cleansing' on final bullet point

### **Volume 3 - Structures**

- 1.1.2 Structure numbers updated and 'Rail Property' name updated to 'National Highways (Historic Railway Estate)'
- 4.2.1 Reference to the Resilient Network Plan being in development removed
- 5.5 'Competence and Training' heading and paragraphs amended from 5.4 to 5.5 (5.4 was a repeat header number)
- 5.6.1 'BD21' amended to 'CS 454'

### **Volume 4 – Street Lighting**

- 3.1 'Asset Management Information' section amended with references to CMS being removed and paragraphs updated
- 4.1.3 BS 7671 updated to 18<sup>th</sup> edition 2018

- 4.1.4 Reference to HID white light removed and colour temperature added
- 4.1.5 Dimmed lighting amended from 21:00 to 22:00
- 4.1.6 Reference to major traffic routes and town centres removed and minimum G4 conformity removed.
- 4.1.8 BS standards (dates) updated
- 4.2.1 (A) Point 1 regarding complete removal of lights and equipment amended
- 4.2.1 (B) Points 1 & 4 removed
- 4.2.1 (C) Point 3 removed
- 4.2.2 Extra information for avoidance of doubt added
- 4.2.3 Updated that requests for addition, removal or replacement of street lights shall be directed to Parish Council only and where there is no Parish Council, the equivalent precept-issuing authority
- 4.2.5 Previous paragraph removed and replaced with a new paragraph providing information relating to cooperating with law enforcement agencies and local authority CCTV operators who wish to use street lights as electricity supply for CCTV camera equipment
- 4.4 Section replaced with Street Lighting Policy wording
- 4.5 Section replaced with Street Lighting Policy wording
- (4.6) Section on 'Adoption of Street Lighting from Other Local Lighting Authorities' removed
- 4.6.3 (4.7.3) Reference to Parish Council removed
- 4.7.2 (4.8.2) Reference to risk assessment removed and direction to the Street Lighting Design guide added
- (4.7.5) Paragraph removed
- (4.8.3) Section removed
- 5.1.1 Section amended to remove reference to code offer review and the one-man working proposal and 'reduce' cost amended to 'control' cost
- 5.2.1 Various amendments to table and 'response to faults' section removed
- 5.2.2 Last sentence removed and various amendments made to table including the second section on Low Pressure Sodium removed.
- 5.2.3 Previous paragraph removed and replaced with information on Night Patrols
- 5.3.1 (5.3) References to Category 1/2/3 defects removed. 'Where a STOP, GIVE WAY or NO ENTRY' text added before regulatory sign within the 22-hour table. Text

deleted from non-routine repairs table and replaced with up-to-date information.

5.3.2 – 5.3.6 Additional paragraphs added

5.5.1 Routine maintenance wording amended to remove reference to core offer and information regarding six-year intervals added

## **Appendix B**

First paragraph, matrix and Category 1 and 2 information removed.

‘Escalation Process’ amended from ‘1 or 2 hour’ to ‘2 hour’

### **Carriageways**

Hierarchy 5 response times corrected for Ironwork raised / sunken greater than 25mm and Ironwork raised / sunken greater than 40mm (from 90 to 28 days)

Hierarchy 5 response times corrected for Edge Damage greater than 40mm breaking edge white line and Edge damage greater than 40mm encroaching more than 100mm into metalled surface (from 90 to 28 days)

‘Or equal to’ added in where categories show defect ‘less than’

### **Footways**

‘Or equal to’ added in where categories show defect ‘less than’

### **Signs and Lines**

Extra information added on first category.

Caveat added to Hierarchy 4/5/6/7 for missing enforcement signs and give way/stop line deteriorating regarding 7 days applying.

## **Appendix E**

(Vol 0) Flood & Water Management Act date corrected.

(Vol 2) ‘BD 21 and BA 16’ relaced with CS 454

## **Appendix F**

Policy & Strategy update removed

Winter Service Plan route based forecasting removed

Data Management Strategy removed

Resilient Network Review added

Network and Traffic Management Plan review added

Highway Policy Review added

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## Equality Impact Analysis to enable informed decisions

### The purpose of this document is to:-

- I. help decision makers fulfil their duties under the Equality Act 2010 and
- II. for you to evidence the positive and adverse impacts of the proposed change on people with protected characteristics and ways to mitigate or eliminate any adverse impacts.

### Using this form

This form must be updated and reviewed as your evidence on a proposal for a project/service change/policy/commissioning of a service or decommissioning of a service evolves taking into account any consultation feedback, significant changes to the proposals and data to support impacts of proposed changes. The key findings of the most up to date version of the Equality Impact Analysis must be explained in the report to the decision maker and the Equality Impact Analysis must be attached to the decision making report.

**\*\*Please make sure you read the information below so that you understand what is required under the Equality Act 2010\*\***

### Equality Act 2010

The Equality Act 2010 applies to both our workforce and our customers. Under the Equality Act 2010, decision makers are under a personal duty, to have due (that is proportionate) regard to the need to protect and promote the interests of persons with protected characteristics.

### Protected characteristics

The protected characteristics under the Act are: age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex; sexual orientation.

### Section 149 of the Equality Act 2010

Section 149 requires a public authority to have due regard to the need to:

- Eliminate discrimination, harassment, victimisation, and any other conduct that is prohibited by/or under the Act
- Advance equality of opportunity between persons who share relevant protected characteristics and persons who do not share those characteristics
- Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

The purpose of Section 149 is to get decision makers to consider the impact their decisions may or will have on those with protected characteristics and by evidencing the impacts on people with protected characteristics decision makers should be able to demonstrate 'due regard'.

### **Decision makers duty under the Act**

Having had careful regard to the Equality Impact Analysis, and also the consultation responses, decision makers are under a personal duty to have due regard to the need to protect and promote the interests of persons with protected characteristics (see above) and to:-

- (i) consider and analyse how the decision is likely to affect those with protected characteristics, in practical terms,
- (ii) remove any unlawful discrimination, harassment, victimisation and other prohibited conduct,
- (iii) consider whether practical steps should be taken to mitigate or avoid any adverse consequences that the decision is likely to have, for persons with protected characteristics and, indeed, to consider whether the decision should not be taken at all, in the interests of persons with protected characteristics,
- (iv) consider whether steps should be taken to advance equality, foster good relations and generally promote the interests of persons with protected characteristics, either by varying the recommended decision or by taking some other decision.

## **Conducting an Impact Analysis**

The Equality Impact Analysis is a process to identify the impact or likely impact a project, proposed service change, commissioning, decommissioning or policy will have on people with protected characteristics listed above. It should be considered at the beginning of the decision making process.

### **The Lead Officer responsibility**

This is the person writing the report for the decision maker. It is the responsibility of the Lead Officer to make sure that the Equality Impact Analysis is robust and proportionate to the decision being taken.

### **Summary of findings**

You must provide a clear and concise summary of the key findings of this Equality Impact Analysis in the decision making report and attach this Equality Impact Analysis to the report.

## Impact – definition

An impact is an intentional or unintentional lasting consequence or significant change to people's lives brought about by an action or series of actions.

### How much detail to include?

The Equality Impact Analysis should be proportionate to the impact of proposed change. In deciding this asking simple questions “Who might be affected by this decision?” “Which protected characteristics might be affected?” and “How might they be affected?” will help you consider the extent to which you already have evidence, information and data, and where there are gaps that you will need to explore. Ensure the source and date of any existing data is referenced.

You must consider both obvious and any less obvious impacts. Engaging with people with the protected characteristics will help you to identify less obvious impacts as these groups share their perspectives with you.

A given proposal may have a positive impact on one or more protected characteristics and have an adverse impact on others. You must capture these differences in this form to help decision makers to arrive at a view as to where the balance of advantage or disadvantage lies. If an adverse impact is unavoidable then it must be clearly justified and recorded as such, with an explanation as to why no steps can be taken to avoid the impact. Consequences must be included.

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**Proposals for more than one option** If more than one option is being proposed you must ensure that the Equality Impact Analysis covers all options. Depending on the circumstances, it may be more appropriate to complete an Equality Impact Analysis for each option.

**The information you provide in this form must be sufficient to allow the decision maker to fulfil their role as above. You must include the latest version of the Equality Impact Analysis with the report to the decision maker. Please be aware that the information in this form must be able to stand up to legal challenge.**

## Background Information

<b>Title of the policy / project / service being considered</b>	Highways Infrastructure Asset Management Plan	<b>Person / people completing analysis</b>	Clair Dixon
<b>Service Area</b>	Highways Services	<b>Lead Officer</b>	Clair Dixon
<b>Who is the decision maker?</b>	Cllr Richard G Davies	<b>How was the Equality Impact Analysis undertaken?</b>	Discussion between officers involved using guidance on Equality & Diversity.
<b>Date of meeting when decision will be made</b>	24/10/2022	<b>Version control</b>	V1.0
<b>Is this proposed change to an existing policy/service/project or is it new?</b>	Existing policy/service/project	<b>LCC directly delivered, commissioned, re-commissioned or de-commissioned?</b>	Commissioned
<b>Describe the proposed change</b>	The changes within this annual review of the HIAMP are minor and it contains a number of changes to operational policy, however there is no operational impact. Therefore there will be no net positive or negative impact on those with protected characteristics.		

### **Evidencing the impacts**

In this section you will explain the difference that proposed changes are likely to make on people with protected characteristics. To help you do this first consider the impacts the proposed changes may have on people without protected characteristics before then considering the impacts the proposed changes may have on people with protected characteristics.

You must evidence here who will benefit and how they will benefit. If there are no benefits that you can identify please state 'No perceived benefit' under the relevant protected characteristic. You can add sub categories under the protected characteristics to make clear the impacts. For example under Age you may have considered the impact on 0-5 year olds or people aged 65 and over, under Race you may have considered Eastern European migrants, under Sex you may have considered specific impacts on men.

### **Data to support impacts of proposed changes**

When considering the equality impact of a decision it is important to know who the people are that will be affected by any change.

#### Population data and the Joint Strategic Needs Assessment

The Lincolnshire Research Observatory (LRO) holds a range of population data by the protected characteristics. This can help put a decision into context. Visit the LRO website and its population theme page by following this link: <http://www.research-lincs.org.uk> If you cannot find what you are looking for, or need more information, please contact the LRO team. You will also find information about the Joint Strategic Needs Assessment on the LRO website.

#### Workforce profiles

You can obtain information by many of the protected characteristics for the Council's workforce and comparisons with the labour market on the [Council's website](#). As of 1<sup>st</sup> April 2015, managers can obtain workforce profile data by the protected characteristics for their specific areas using Agresso.

**Positive impacts**

The proposed change may have the following positive impacts on persons with protected characteristics – If no positive impact, please state '*no positive impact*'.

<b>Age</b>	No Positive Impact specific to this protected characteristic.
<b>Disability</b>	No Positive Impact specific to this protected characteristic.
<b>Gender reassignment</b>	No positive impact specific to this protected characteristic.
<b>Marriage and civil partnership</b>	No positive impact specific to this protected characteristic.
<b>Pregnancy and maternity</b>	No positive impact specific to this protected characteristic.
<b>Race</b>	No positive impact specific to this protected characteristic.
<b>Religion or belief</b>	No positive impact specific to this protected characteristic.

<b>Sex</b>	No positive impact specific to this protected characteristic..
<b>Sexual orientation</b>	No positive impact specific to this protected characteristic..

**If you have identified positive impacts for other groups not specifically covered by the protected characteristics in the Equality Act 2010 you can include them here if it will help the decision maker to make an informed decision.**

**Adverse/negative impacts**

You must evidence how people with protected characteristics will be adversely impacted and any proposed mitigation to reduce or eliminate adverse impacts. An adverse impact causes disadvantage or exclusion. If such an impact is identified please state how, as far as possible, it is justified; eliminated; minimised or counter balanced by other measures.

If there are no adverse impacts that you can identify please state 'No perceived adverse impact' under the relevant protected characteristic.

**Negative impacts of the proposed change and practical steps to mitigate or avoid any adverse consequences on people with protected characteristics are detailed below. If you have not identified any mitigating action to reduce an adverse impact please state 'No mitigating action identified'.**

<b>Age</b>	No perceived adverse impact. The Plan describes in general terms the standards, policy and objectives of highway maintenance. The changes within this annual review of the HIAMP are minor and there is no change to policy within the document. The impacts of the decision are therefore neutral between those with this protected characteristic and people who do not share that protected characteristic.
<b>Disability</b>	No perceived adverse impact. The Plan describes in general terms the standards, policy and objectives of highway maintenance. The changes within this annual review of the HIAMP are minor and there is no change to policy within the document. The impacts of the decision are therefore neutral between those with this protected characteristic and people who do not share that protected characteristic.
<b>Gender reassignment</b>	No perceived adverse impact. The Plan describes in general terms the standards, policy and objectives of highway maintenance. The changes within this annual review of the HIAMP are minor and there is no change to policy within the document. The impacts of the decision are therefore neutral between those with this protected characteristic and people who do not share that protected characteristic.
<b>Marriage and civil partnership</b>	No perceived adverse impact. The Plan describes in general terms the standards, policy and objectives of highway maintenance. The changes within this annual review of the HIAMP are minor and there is no change to policy within the document. The impacts of the decision are therefore neutral between those with this protected characteristic and people who do not share that protected characteristic.
<b>Pregnancy and maternity</b>	No perceived adverse impact. The Plan describes in general terms the standards, policy and objectives of highway maintenance. The changes within this annual review of the HIAMP are minor and there is no change to policy within the document. The impacts of the decision are therefore neutral between those with this protected characteristic and people who do not share that protected characteristic.



<b>Race</b>	No perceived adverse impact. The Plan describes in general terms the standards, policy and objectives of highway maintenance. The changes within this annual review of the HIAMP are minor and there is no change to policy within the document. The impacts of the decision are therefore neutral between those with this protected characteristic and people who do not share that protected characteristic.
<b>Religion or belief</b>	No perceived adverse impact. The Plan describes in general terms the standards, policy and objectives of highway maintenance. The changes within this annual review of the HIAMP are minor and there is no change to policy within the document. The impacts of the decision are therefore neutral between those with this protected characteristic and people who do not share that protected characteristic.
<b>Sex</b>	No perceived adverse impact. The Plan describes in general terms the standards, policy and objectives of highway maintenance. The changes within this annual review of the HIAMP are minor and there is no change to policy within the document. The impacts of the decision are therefore neutral between those with this protected characteristic and people who do not share that protected characteristic.
<b>Sexual orientation</b>	No perceived adverse impact. The Plan describes in general terms the standards, policy and objectives of highway maintenance. The changes within this annual review of the HIAMP are minor and there is no change to policy within the document. The impacts of the decision are therefore neutral between those with this protected characteristic and people who do not share that protected characteristic.

**If you have identified negative impacts for other groups not specifically covered by the protected characteristics under the Equality Act 2010 you can include them here if it will help the decision maker to make an informed decision.**

## Stakeholders

Stake holders are people or groups who may be directly affected (primary stakeholders) and indirectly affected (secondary stakeholders)

You must evidence here who you involved in gathering your evidence about benefits, adverse impacts and practical steps to mitigate or avoid any adverse consequences. You must be confident that any engagement was meaningful. The Community engagement team can help you to do this and you can contact them at [consultation@lincolnshire.gov.uk](mailto:consultation@lincolnshire.gov.uk)

State clearly what (if any) consultation or engagement activity took place by stating who you involved when compiling this EIA under the protected characteristics. Include organisations you invited and organisations who attended, the date(s) they were involved and method of involvement i.e. Equality Impact Analysis workshop/email/telephone conversation/meeting/consultation. State clearly the objectives of the EIA consultation and findings from the EIA consultation under each of the protected characteristics. If you have not covered any of the protected characteristics please state the reasons why they were not consulted/engaged.

### Objective(s) of the EIA consultation/engagement activity

No consultation or engagement activity undertaken.

**Who was involved in the EIA consultation/engagement activity? Detail any findings identified by the protected characteristic**

<b>Age</b>	As detailed above. None identified.
<b>Disability</b>	As detailed above. None identified.
<b>Gender reassignment</b>	As detailed above. None identified.
<b>Marriage and civil partnership</b>	As detailed above. None identified.
<b>Pregnancy and maternity</b>	As detailed above. None identified.
<b>Race</b>	As detailed above. None identified.
<b>Religion or belief</b>	As detailed above. None identified.

<b>Sex</b>	As detailed above. None identified.
<b>Sexual orientation</b>	As detailed above. None identified.
<b>Are you confident that everyone who should have been involved in producing this version of the Equality Impact Analysis has been involved in a meaningful way?</b> The purpose is to make sure you have got the perspective of all the protected characteristics.	Yes.
<b>Once the changes have been implemented how will you undertake evaluation of the benefits and how effective the actions to reduce adverse impacts have been?</b>	Annual Review of the Plan

### Further Details

<b>Are you handling personal data?</b>	<p>No</p> <p>If yes, please give details.</p>
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	Action	Lead officer	Timescale
<b>Actions required</b> Include any actions identified in this analysis for on-going monitoring of impacts.	Regular Review	Clair Dixon	Continual Monitoring and annual review.
<b>Signed off by</b>		<b>Date</b>	Click here to enter a date.

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**Open Report on behalf of Andy Gutherson - Executive Director - Place**

Report to:	<b>Highways and Transport Scrutiny Committee</b>
Date:	<b>24 October 2022</b>
Subject:	<b>Hirebike (Bike Share) Decision to Tender</b>

**Summary:**

This item invites the Highways and Transport Scrutiny Committee to consider a paper regarding the Hirebike (Bike Share) Decision to Tender.

This decision is due to be considered by the Executive Councillor for Highways, Transport and IT between 25 October 2022 and 1 November 2022. The views of the Scrutiny Committee will be reported to the Executive Councillor for Highways, Transport and IT as part of his consideration of this item.

**Actions Required:**

That the Highways and Transport Scrutiny Committee:

- 1) considers the attached report and determines whether the Committee supports the recommendations to the Executive Councillor for Highways, Transport and IT as set out in the report.
- 2) agrees any additional comments to be passed on to the Executive Councillor for Highways, Transport and IT in relation to this item.

**1. Background**

The Executive Councillor is due to consider the Hirebike (Bike Share) Decision to Tender between 25 October 2022 and 1 November 2022. The full report to the Executive Councillor is attached at Appendix 1 to this report.

**2. Conclusion**

Following consideration of the attached report, the Committee is requested to consider whether it supports the recommendations in the report and whether it wishes to make any additional comments to the Executive Councillor. Comments from the Committee will be reported to the Executive Councillor.

**3. Consultation**

The Committee is being consulted on the proposed decision of the Executive Councillor between 25 October 2022 and 1 November 2022.

**4. Appendices**

These are listed below and attached at the back of the report	
Appendix A	Report to the Executive Councillor for Highways, Transport and IT on Hirebike (Bike Share) Decision to Tender.

**5. Background Papers**

No background papers within the meaning of section 100D of the Local Government Act 1972 were used in the preparation of this Report.

This report was written by Philip Watt, Active Travel Officer- Environment, who can be contacted on 01522 554553 or via email at [philip.watt@lincolnshire.gov.uk](mailto:philip.watt@lincolnshire.gov.uk).



**Open Report on behalf of Andy Gutherson - Executive Director of Place**

Report to:	<b>Councillor R Davies, Executive Councillor for Highways, Transport and IT</b>
Date:	<b>25 October – 1 November 2022</b>
Subject:	<b>Hirebike (Bike Share) Decision to Tender</b>
Decision Reference:	<b>I028201</b>
Key decision?	<b>No</b>

**Summary:**

Lincolnshire County Council has operated a bike share scheme in the city of Lincoln for over 10 years.

The orange bikes, branded as Hirebike, are available at 27 sites around the city and there are 120 bikes.

The current contract with the incumbent operator has come to end and the bikes are now obsolete.

This Report seeks approval to tender for an operator of a new Hirebike scheme.

**Recommendation(s):**

That the Executive Councillor for Highways, Transport and IT:-

- 1) approves the carrying out of a tendering exercise for the provision of a Hirebike scheme in Lincoln and the surrounding area; and,
- 2) delegates to the Executive Director – Place in consultation with the Executive Councillor for Highways, Transport and IT authority to take all decision necessary to conduct the tendering exercise up to but not including award of a contract.

**Alternatives Considered:**

1.	To cease the service and withdraw Hirebike from Lincoln.  This is not recommended as the Hirebike scheme is a central element of active
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	travel flagship project for active travel in Lincolnshire. It is a highly visible project that provides an alternative for car travel and prompts modal shift.
2.	To continue with the current system.  The existing contract has come to an end and the existing bikes are obsolete. An opportunity has therefore arisen to test the market and identify newer ways of delivering an improved scheme.

**Reasons for Recommendation:**

Hirebike is a flagship project for active travel in Lincolnshire. It is a highly visible project that provides an alternative for car travel and prompts modal shift.

The Sustainability and Procurement Teams have already carried out soft market engagement and understand it is possible to deliver a new, and upgraded, Hirebike project for the city at a much-reduced cost.

At this stage approval is only being sought for conducting a tendering exercise, not for accepting any tender submitted which will be the subject of a further decision. However, following the market engagement the Sustainability Team believe that it is probable numerous tenders will be received.

**1. Background**

Hirebike is the bike share scheme in the city of Lincoln and surrounding areas. The orange bikes are run by the Hourbike company who also maintained schemes in other towns such as Liverpool, Reading, Derby, and Brighton. Today, only the Brighton and Lincoln schemes remain under the Hourbike remit.

The contract and extensions for the current operator are nearing the end and the value of the current equipment is ‘scrap’. Technology has moved on at pace since the original installation of the scheme in 2013 and should the decision be made to continue with Hirebike a new platform, bikes, and associated logistics will be required.

Changes to the current scheme we would expect bidders to offer would be:

- Improved access and unlocking of bikes. For example, by using mobile phone based QR code technology linked to ApplePay and AndroidPay.
- Expanding the scheme to include the entirety of the city of Lincoln as well as villages in the periphery including Branston, Washingborough and Nettleham.
- Using technology for more docking stations using geofencing – allowing for additional stations and simplicity of moving docking points.
- Improving the bicycle itself, providing a more responsive, lighter, and more agile bike.

- Improving data, for example showing routes taken rather than simply a beginning and end point.

Other than the above we consider the best approach to be to allow the various operators around the country to tell Lincolnshire County Council (LCC) what they consider to be the best way of delivering a scheme in Lincoln.

We would expect all bidders to outline to LCC the network they propose, the bike they propose, and the access and payment arrangements.

By using a tendering process, we can enable operators to explain the above to LCC, rather than LCC describing the scheme. For example, the initial contract detailed exactly the type of bike we expected to see and the locations of stations. This tied operators to this type of operation – instead we would rather operators explained and justified why their system is suitable for Lincoln and outlined the benefits it could bring. How many bicycles does the city need? How many docking stations? Where should the stations be? How much should we charge given the demographics and wages of the area? All points the operators should be able to explain to us.

#### Current Performance

Performance of the current contract is difficult to ascertain due to the original KPIs being somewhat unspecific. The best metric on performance is that of the bikes, prior to Covid, having a ridership rate of 0.2 per day – or roughly one rental per week, per bike. This was consistently one of the lowest of the Hirebike fleet and is 10 times lower than the Brighton rate of 2 rentals per bike, per day.

The Sustainability Team believe it is possible for a new operator with an upgraded system to significantly increase this level.

#### Costs

It should be noted that no bike share scheme in the UK is self-sustaining. Transport for London subsidise the Santander Cycles scheme by at least £4million per year. There will be a requirement to subsidise any scheme moving forward. It is extremely unlikely that a scheme would sustain itself in Lincoln, including if sponsorship was achieved.

Following market engagement, it is believed that LCC could offer sufficient incentive to potential operators by offering a £1 per rental subsidy, capped at an upper level of £25,000-£35,000.

For comparison, pre pandemic use of the fleet saw approximately 7,000 rentals a year. 25,000 rentals in a year would represent a huge success for the scheme. Capping the subsidy offered would provide LCC with assurance on a total amount and remove a (very minor) risk of LCC having to potentially fund an unlimited amount of money.

Offering a 'per-rental' subsidy over a flat fee subsidy would incentivise operators to maximise rentals and penalise for lack of effort to engage local residents.

### Funding Sources

The Department for Transport is releasing a multi-year capital and revenue funding settlement as part of the Capability and Ambition Fund. Although this funding could be purposed towards the costs of the scheme there are competing pressures elsewhere in the county and across other projects which would need to be prioritised.

### Risks

- Keeping the current system is a major risk. The bicycles themselves have no residual value and, due to their age, spare parts are becoming harder to find and, in some cases, unavailable.
- It is more expensive and of less use to residents to keep the current scheme.
- It is not possible to guarantee that external funding could be used towards this project. Other priorities may take over and it is feasible the DfT may state that future funding cannot be used towards bike share (although there has been no indication of this happening)
- Withdrawing the bike share system would remove an avenue to encourage modal shift, an issue of increasing importance to the Council's transport agenda.
- Bike share schemes are often seen as a flagship active travel project for cities. There could be a reputational risk for the city of Lincoln in being seen to abandon its bikeshare scheme however a properly advertised and marketed it is possible for a bike share scheme to be a success.

It appears that whichever form of scheme is progressed the Council should be aware that there is likely to be a subsidy required for the foreseeable future.

## **2. Legal Issues:**

### Equality Act 2010

Under section 149 of the Equality Act 2010, the Council must, in the exercise of its functions, have due regard to the need to:

- Eliminate discrimination, harassment, victimisation and any other conduct that is prohibited by or under the Act.
- Advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it.
- Foster good relations between persons who share a relevant protected characteristic and persons who do not share it.

The relevant protected characteristics are age; disability; gender reassignment; pregnancy and maternity; race; religion or belief; sex; and sexual orientation.

Having due regard to the need to advance equality of opportunity involves having due regard, in particular, to the need to:

- Remove or minimise disadvantages suffered by persons who share a relevant protected characteristic that are connected to that characteristic.
- Take steps to meet the needs of persons who share a relevant protected characteristic that are different from the needs of persons who do not share it.
- Encourage persons who share a relevant protected characteristic to participate in public life or in any other activity in which participation by such persons is disproportionately low.

The steps involved in meeting the needs of disabled persons that are different from the needs of persons who are not disabled include, in particular, steps to take account of disabled persons' disabilities.

Having due regard to the need to foster good relations between persons who share a relevant protected characteristic and persons who do not share it involves having due regard, in particular, to the need to tackle prejudice, and promote understanding.

Compliance with the duties in section 149 may involve treating some persons more favourably than others.

The duty cannot be delegated and must be discharged by the decision-maker. To discharge the statutory duty the decision-maker must analyse all the relevant material with the specific statutory obligations in mind. If a risk of adverse impact is identified consideration must be given to measures to avoid that impact as part of the decision-making process.

The Equality Act duty has been considered and the tendering of the scheme is at least neutral in its impact on people with a protected characteristic. The tendering exercise can be used to explore the ways in which the scheme may be made more accessible to people with protected characteristics especially older people and people with disabilities to increase the opportunity for people with a protected characteristic to realise the benefits of the scheme

#### Joint Strategic Needs Assessment (JSNA) and the Joint Health and Wellbeing Strategy (JHWS)

The Council must have regard to the Joint Strategic Needs Assessment (JSNA) and the Joint Health and Wellbeing Strategy (JHWS) in coming to a decision.

A Hirebike scheme contributes directly to the aims of the Joint Health and Wellbeing Strategy by increasing access to active travel and encouraging exercise whilst having the potential to reduce car journeys and associated emissions.

## Crime and Disorder

Under section 17 of the Crime and Disorder Act 1998, the Council must exercise its various functions with due regard to the likely effect of the exercise of those functions on, and the need to do all that it reasonably can to prevent crime and disorder in its area (including anti-social and other behaviour adversely affecting the local environment), the misuse of drugs, alcohol and other substances in its area and re-offending in its area.

The section 17 matters have been taken into account but there not considered to be any implications arising out of this decision.

### **3. Conclusion**

That to fully consider the benefits of a modernised fleet of hireable bikes and the utilisation of new technologies to make the scheme more attractive to users such as the location of stations through geofencing and the use of smart payment options, it is recommended that the Council enter a formal tendering process and that the market providers formulate a scheme for evaluation that can demonstrate the value to Lincoln residents.

### **4. Legal Comments:**

The Council has the power to conduct the tendering exercise proposed.

The decision is consistent with the Policy Framework and within the remit of the Executive Councillor.

### **5. Resource Comments:**

There are no financial consequences in the cessation of the existing contract or in the undertaking of a procurement exercise to gauge values. Contract award decisions will be subject to a further report as the tenders will have differing offers in terms of the design of the scheme.

### **6. Consultation**

#### **a) Has Local Member Been Consulted?**

N/A

#### **b) Has Executive Councillor Been Consulted?**

Yes

#### **c) Scrutiny Comments**

The decision will be considered by the Highways and Transport Scrutiny Committee on

24 October 2022 and the comments of the Committee will be reported to the Executive Councillor.

**d) Risks and Impact Analysis**

See the body of the Report.

**7. Background Papers**

No background papers within Section 100D of the Local Government Act 1972 were used in the preparation of this report.

This report was written by Philip Watt, Active Travel Officer- Environment, who can be contacted on 01522 554553 or via email at [philip.watt@lincolnshire.gov.uk](mailto:philip.watt@lincolnshire.gov.uk).

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