# Highway Maintenance Plan 2018 – 2030


Version 1
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**Revision History**

| Revision No. | Amendments | Published to Website |
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| 10 | First version | 06 July 2018 |
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# Section 1

# Strategic Context &

# New Code of Practise

## 1.1 Executive summary

This highway maintenance plan (HMP) details the maintenance procedures for day to day management and delivery of the highway maintenance service and, together with the highway asset management framework document (HAMF) and the highways asset management plan (HAMP) forms the three parts of the Gateshead Council (GC) strategy for highway asset management over the period 2018 to 2030. The HMP will be used to plan the highway maintenance activities during this period to deliver the best outcomes with the resources available. (see figure 1)

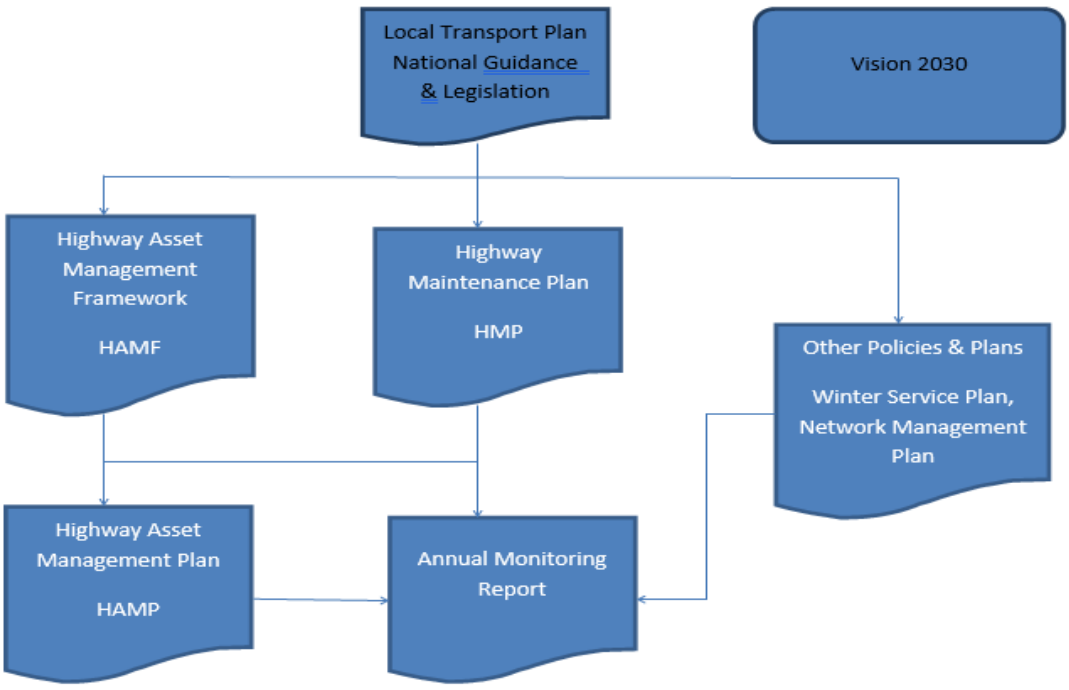
## 1.2 Strategic context

The HMP relates directly to themes of Vision 2030, the sustainable community strategy for Gateshead. In underpinning activity of all kind it has a central role to play in helping to achieve its vision for Gateshead of:

*"Local people realising their full potential, enjoying the best quality of life in a healthy, equal, safe, prosperous and sustainable Gateshead."*

It will be of particular importance in supporting the 'City of Gateshead, 'Sustainable Gateshead' and 'Active and Healthy Gateshead' big ideas embodied in Vision 2030.

Figure 1 Relationship of Strategic Documents



## 1.3 The new code of practice, "Well managed Highway Infrastructure" and its role in maintenance planning.

At the direction of central government, the Department of Transport commissioned the UK Roads Liaison Group (UKRLG) to review three national codes of practice: 'Well-maintained Highways', 'Management of Highway Structures' and 'Well-lit Highways'. The aim was to enable local authorities to maintain their highway infrastructure in the most effective and efficient way by strengthening guidance on what is known as risk based highway maintenance. A risk based approach to asset management of highway infrastructure assets takes account of risks to an asset as well as its condition. The review resulted in the publication in October 2016 of 'Well-managed Highway Infrastructure: A Code of Practice'(CoP).

This highway maintenance plan (HMP) sets out GC's technical procedures for the day to day delivery of the highway maintenance service. It will also provide supporting evidence to demonstrate the authority's compliance with the new CoP.

## 1.4 Scope of the HMP

This plan covers highway infrastructure assets in the ownership of GC.
The assets are:

- carriageways
- footways
- highway drainage
- cycle paths
- public rights of way
- bridges and related structures
- street lighting.
- traffic signal equipment

Traffic signals are managed by Newcastle City Council however the planned maintenance element of the service has been transferred to GC.

## 1.5 Layout of the HMP

The procedures contained within this plan have been developed with regard to the thirty six recommendations documented in the CoP. Section 1.6 provides a brief overview of each of the recommendations while section 1.7 explains how GC will implement them.

The HMP is divided into the following sections:

- section 1 - strategic context and new CoP;
- section 2 - highway maintenance procedures;
- section 3 - bridges and structural maintenance procedures;
- section 4 - street lighting maintenance procedures.

## 1.6 Summary of the 36 CoP recommendations

**RECOMMENDATION 1 – USE OF THE CODE**
This code, in conjunction with the UKRLG Highway Infrastructure Asset Management Guidance, should be used as the starting point against which to develop, review and formally approve highway infrastructure maintenance policy and to identify and formally approve the nature and extent of any variations.

**RECOMMENDATION 2 – ASSET MANAGEMENT FRAMEWORK**
An asset management framework should be developed and endorsed by senior decision makers. All activities outlined in the framework should be documented.

**RECOMMENDATION 3 – ASSET MANAGEMENT POLICY AND STRATEGY**
An asset management policy and a strategy should be developed and published. These should align with the corporate vision and demonstrate the contribution asset management makes towards achieving this vision.

**RECOMMENDATION 4 – ENGAGING AND COMMUNICATING WITH STAKEHOLDERS**
Relevant information should be actively communicated through engagement with relevant stakeholders in setting requirements, making decisions and reporting performance.

**RECOMMENDATION 5 – CONSISTENCY WITH OTHER AUTHORITIES**
To ensure that users' reasonable expectations for consistency are taken into account, the approach of other local and strategic highway and transport authorities, especially those with integrated or adjoining networks, should be considered when developing highway infrastructure maintenance policies.

**RECOMMENDATION 6 – AN INTEGRATED NETWORK**
The highway network should be considered as an integrated set of assets when developing highway infrastructure maintenance policies

**RECOMMENDATION 7 – RISK BASED APPROACH**
A risk based approach should be adopted for all aspects of highway infrastructure maintenance, including setting levels of service, inspections, responses, resilience, priorities and programmes.

**RECOMMENDATION 8 – INFORMATION MANAGEMENT**
Information to support a risk based approach to highway maintenance should be collected, managed and made available in ways that are sustainable, secure, meet any statutory obligations, and, where appropriate, facilitate transparency for network users.

**RECOMMENDATION 9 – NETWORK INVENTORY**
A detailed inventory or register of highway assets, together with information on their scale, nature and use, should be maintained. The nature and extent of inventory collected should be fit for purpose and meet business needs. Where data or information held is considered sensitive, this should be managed in a security-minded way.

**RECOMMENDATION 10 – ASSET DATA MANAGEMENT**
The quality, currency, appropriateness and completeness of all data supporting asset management should be regularly reviewed. An asset register should be maintained that stores, manages and reports all relevant asset data.

**RECOMMENDATION 11 – ASSET MANAGEMENT SYSTEMS**
Asset management systems should be sustainable and able to support the information required to enable asset management. Systems should be accessible to relevant staff and, where appropriate, support the provision of information for stakeholders.

**RECOMMENDATION 12 – NETWORK HIERARCHY**
A network hierarchy, or a series of related hierarchies, should be defined which include all elements of the highway network, including carriageways, footways, cycle routes, structures, lighting and rights of way. The hierarchy should take into account current and expected use, resilience, and local economic and social factors such as industry, schools, hospitals and similar, as well as the desirability of continuity and of a consistent approach for walking and cycling.

**RECOMMENDATION 13 – WHOLE LIFE / DESIGNING FOR MAINTENANCE**
Authorities should take whole life costs into consideration when assessing options for maintenance, new and improved highway schemes. The future maintenance costs of such new infrastructure are therefore a prime consideration.

**RECOMMENDATION 14 – RISK MANAGEMENT**
The management of current and future risks associated with assets should be embedded within the approach to asset management. Strategic, tactical and operational risks should be included as should appropriate mitigation measures.

**RECOMMENDATION 15 – COMPETENCIES AND TRAINING**
The appropriate competency required for asset management should be identified, and training should be provided where necessary.

**RECOMMENDATION 16 – INSPECTIONS**
A risk based inspection regime, including regular safety inspections, should be developed and implemented for all highway assets.

**RECOMMENDATION 17 – CONDITION SURVEYS**
An asset condition survey regime, based on asset management needs and any statutory reporting requirements, should be developed and implemented.

**RECOMMENDATION 18 – MANAGEMENT SYSTEMS AND CLAIMS**
Records should be kept of all activities, particularly safety and other inspections, including the time and nature of any response, and procedures established to ensure efficient management of claims whilst protecting the authority from unjustified or fraudulent claims.

**RECOMMENDATION 19 – DEFECT REPAIR**

A risk based defect repair regime should be developed and implemented for all highway assets.

**RECOMMENDATION 20 – RESILIENT NETWORK**
Within the highway network hierarchy a resilient network should be identified to which priority is given through maintenance and other measures to maintain economic activity and access to key services during extreme weather.

**RECOMMENDATION 21 – CLIMATE CHANGE ADAPTATION**
The effects of extreme weather events on highway infrastructure assets should be risk assessed and ways to mitigate the impacts of the highest risks identified.

**RECOMMENDATION 22 – DRAINAGE MAINTENANCE**
Drainage assets should be maintained in good working order to reduce the threat and scale of flooding. Particular attention should be paid to locations known to be prone to problems, so that drainage systems operate close to their designed efficiency.

**RECOMMENDATION 23 – CIVIL EMERGENCIES AND SEVERE WEATHER EMERGENCIES PLANS**
The role and responsibilities of the highway authority in responding to civil emergencies should be defined in the authority's civil emergency plan. A severe weather emergencies plan should also be established in consultation with others, including emergency services, relevant authorities and agencies. It should include operational, resource and contingency plans and procedures to enable timely and effective action by the highway authority to mitigate the effects of severe weather on the network and provide the best practicable service in the circumstances.

**RECOMMENDATION 24 – COMMUNICATIONS**
Severe Weather and Civil Emergencies Plans should incorporate a communications plan to ensure that information including weather and flood forecasts are received through agreed channels and that information is disseminated to highway users through a range of media.

**RECOMMENDATION 25 – LEARNING FROM EVENTS**
Severe weather and civil emergencies plans should be regularly rehearsed and refined as necessary. The effectiveness of the plans should be reviewed after actual events and the learning used to develop them as necessary.

**RECOMMENDATION 26 – PERFORMANCE MANAGEMENT FRAMEWORK**
A performance management framework should be developed that is clear and accessible to stakeholders as appropriate and supports the asset management strategy.

**RECOMMENDATION 27 – PERFORMANCE MONITORING**
The performance of the asset management framework should be monitored and reported. It should be reviewed regularly by senior decision makers and when appropriate, improvement actions should be taken.

**RECOMMENDATION 28 – FINANCIAL PLANS**

Financial plans should be prepared for all highway maintenance activities covering short, medium and long term time horizons.

**RECOMMENDATION 29 – LIFECYCLE PLANS**
Lifecycle planning principles should be used to review the level of funding, support investment decisions and substantiate the need for appropriate and sustainable long- term investment.

**RECOMMENDATION 30 – CROSS ASSET PRIORITIES**
In developing priorities and programmes, consideration should be given to prioritising across asset groups as well as within them.

**RECOMMENDATION 31 – WORKS PROGRAMMING**
A prioritised forward works programme for a rolling period of three to five years should be developed and updated regularly.

**RECOMMENDATION 32 – CARBON**
The impact of highway infrastructure maintenance activities in terms of whole life carbon costs should be taken into account when determining appropriate interventions, materials and treatments.

**RECOMMENDATION 33 – CONSISTENCY WITH CHARACTER**
Determination of materials, products and treatments for the highway network should take into account the character of the area as well as factoring in whole life costing and sustainability. The materials, products and treatments used for highway maintenance should meet requirements for effectiveness and durability.

**RECOMMENDATION 34 – HERITAGE ASSETS**
Authorities should identify a schedule of listed structures, ancient monuments and other relevant assets and work with relevant organisations to ensure that maintenance reflects planning requirements.

**RECOMMENDATION 35 – ENVIRONMENTAL IMPACT, NATURE CONSERVATION AND BIODIVERSITY**
Materials, products and treatments for highway infrastructure maintenance should be appraised for environmental impact and for wider issues of sustainability. Highway verges, trees and landscaped areas should be managed with regard to their nature conservation value and biodiversity principles as well as whole-life costing, highway safety and serviceability.

**RECOMMENDATION 36 – MINIMISING CLUTTER**
Opportunities to simplify signs and other street furniture and to remove redundant items should be taken into account when planning highway infrastructure maintenance activities.

## 1.7 Implementation of the CoP Recommendations

The table below illustrates how and where each of the recommendations have been implemented. The information sign posts the reader to the relevant document.

| **Recommendation 1 - USE OF THE CODE** |
|---|
| GC worked collaboratively with the other highway authorities within Tyne & Wear to implement the CoP. Between August 2017 and April 2018 the following actions were completed:<br><br>• gap analysis;<br>• developed an action plan;<br>• developed procedures;<br>• developed an implementation plan<br><br>The remainder of this section summarises how GC has implemented the CoP against each of the individual recommendations, and where the CoP procedures can be found. |
| **Recommendation 2 - ASSET MANAGEMENT FRAMEWORK** |
| GC has an highway asset management framework (HAMF) which is endorsed by its cabinet. This document provides an overarching framework for highway asset management. It includes the activities and processes that are necessary to develop, document, implement and continually improve highway asset management.<br><br>The framework is a standalone document and forms part of a suite of highway asset management documents. This highway maintenance plan (HMP) forms part of this suite of documents and is available to view on GC's website. |
| **Recommendation 3 - ASSET MANAGEMENT POLICY AND STRATEGY** |
| GC has developed a highway asset management plan (HAMP) which incorporates a policy and strategy. The policy and strategy are endorsed by the Council's cabinet.<br><br>The policy is a concise document that describes the principles we will adopt in applying asset management to achieve strategic objectives.<br><br>The HAMP aligns with GC's corporate vision (Vision 2030) and demonstrates the contribution highway asset management makes towards achieving this vision. This document is available to view on GC's website. |

| **Recommendation 4 – ENGAGING AND COMMUNICATING WITH STAKEHOLDERS** |
| --- |
| GC has prepared a communication strategy which is located in the HAMF and is endorsed by the Council's Cabinet. This document will detail procedures to communicate with our stakeholders.<br><br>The communication strategy is available to view on GC's website. |
| **Recommendation 5 - CONSISTENCY WITH OTHER AUTHORITIES** |
| GC worked collaboratively (see recommendation 1) to implement the CoP. Inspection manuals and procedures for repair and the development of resilient routes were developed on this basis between neighbouring authorities. |
| **Recommendation 6 - AN INTEGRATED NETWORK** |
| GC's HAMP has been developed to inform an integrated approach to developing highway maintenance schemes and plans.<br><br>The HAMP is available to view on GC's website. |

| **Recommendation 7 - RISK BASED APPROACH** |
| --- |
| GC has adopted a risk based approach to deliver a consistent approach to all aspects of highway infrastructure maintenance, including setting levels of service, inspections, responses, resilience, priorities and programmes.<br><br>The risk based approach methodology sits within the HAMF.<br><br>The HAMF is available to view on GC's website. |
| **Recommendation 8 - INFORMATION MANAGEMENT** |
| GC has created an information strategy which sits within the HAMF. This document will support a risk based approach to highway maintenance information. This will be collected, managed and made available in ways that are sustainable, secure, meet statutory obligations, and facilitate transparency for network users.<br><br>The information strategy is available to view on GC's website. |
| |

| **Recommendation 9 - NETWORK INVENTORY** |
| --- |
| GC has a computerised inventory and register of highway assets.The link between the inventory and inspection policy is explained in section 2 and appendix 1<br><br>This strategy supports a risk based approach to the collection of data which should be fit for purpose and meet the requirements of the HAMP.<br><br>The information management strategy is available to view on GC's website. |
| **Recommendation 10 - ASSET DATA MANAGEMENT** |
| GC has developed an information management strategy which sits within the HAMF. This strategy supports a risk based approach to the collection of data which should be fit for purpose and meet the requirements of the HAMP.<br><br>The information management strategy is available to view on GC's website. |

| **Recommendation 11 - ASSET MANAGEMENT SYSTEMS** |
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| GC has an information management strategy which sits within the HAMF. The asset management system is used to manage the highway inventory, condition and the data held are detailed in the HAMF. |
| **Recommendation 12 - NETWORK HIERARCHY** |
| GC has carried out a review of its network hierarchies. The review was developed using the risk based approach methodology taking into account expected use, resilience, local economic and social factors. Details of how this hierarchy is used are available in section 2. |
| **Recommendation 13 - WHOLE LIFE / DESIGNING FOR MAINTENANCE** |
| GC has developed life cycle scenarios for the major highway infrastructure assets. The scenarios sit within the HAMP and are endorsed by the Council's Cabinet.<br><br>The HAMP is available to view on GC's website. |
| |

**Recommendation 14 - RISK MANAGEMENT**

GC has prepared a consistent approach to the management of current and future risk associated with assets.

The HAMF contains the risk management strategy and is available to view on GC's website.

**Recommendation 15 - COMPETENCIES AND TRAINING**

GC has a competencies framework to identify competencies expected for the officers managing GC's assets.

The competencies framework is contained in the HAMF.

The HAMF is available to view on our website

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**Recommendation 16 – INSPECTIONS**

GC has developed risk based inspection methods and implemented this in conjunction with the network hierarchies (see recommendation 12).

The inspection methodologies for each of the infrastructure assets can be found in parts 2, 3 and 4.

**Recommendation 17 - CONDITION SURVEYS**

GC has developed an information management strategy which sits within the HAMP/HAMF. Within the information management strategy is an asset condition survey regime and the statutory reporting requirements.

This strategy supports a risk based approach to the collection of condition data.

The information management strategy is available to view on GC's website.

**Recommendation 18 - MANAGEMENT SYSTEMS AND CLAIMS**

GC has a computerised asset management system and a procedure for dealing with third party claims. GC's safety inspection regime forms a key part of GC's strategy for managing liabilities and risk, appendix 1 details the inspection regime.

**Recommendation 19 - DEFECT REPAIR**

GC has developed a risk based defect repair regime for all its highway infrastructure assets.

The defect repair methodology for each of the infrastructure assets can be found in parts B, C and D of this document.

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| **Recommendation 20 - RESILIENT NETWORK** |
| A resilient network has been developed with regard to the principles set out in the transport resilience review recommendations published in 2014 by the Department for Transport.<br><br>Consideration for the maintenance of the resilient network has been reflected in the development of the network hierarchies.<br>The resilient network is contained within the HAMF. |
| **Recommendation 21 - CLIMATE CHANGE ADAPTATION** |
| Climate change is likely to result in an increase in the number of extreme weather events.The implications of this for resilience planning, maintenance regimes and the design of new infrastructure are being assessed as knowledge and thinking in this area increases. |
| **Recommendation 22 - DRAINAGE MAINTENANCE** |
| GC has developed a highway drainage management strategy which is contained within this document (appendix 3) .<br><br>The road gully maintenance procedure was developed in line with the risk based approach and the recommendations outlined in the Highway Maintenance Efficiency Programme Guidance on the Management of Highway Drainage Assets, 2012. |
| **Recommendation 23 - CIVIL EMERGENCIES AND SEVERE WEATHER EMERGENCIES PLANS** |
| GC has developed a plan to respond to civil emergencies and this is set out in the emergency response plan, winter services and flood defence pinch point plans. |
| **Recommendation 24 - COMMUNICATIONS** |
| The plans referred to in recommendation 23 include communication strategies for civil emergencies and severe weather warnings. |
| **Recommendation 25 - LEARNING FROM EVENTS** |

| |
|---|
| Following major incidents GC carrys out a debrief and lessons learnt exercise and the findings are reviewed. The lessons learnt from major incidents are used to develop revised procedures as necessary. |
| **Recommendation 26 - PERFORMANCE MANAGEMENT FRAMEWORK** |
| GC has developed a performance management strategy which sits within the HAMF. This document supports the asset management approach to highway maintenance and performance management information is reported annually in GC's HAMP monitoring report.<br><br>The annual monitoring report is available to view on GC's website. |
| **Recommendation 27 - PERFORMANCE MONITORING** |
| GC reports its performance in the HAMP annual performance monitoring report and has quarterly reports prepared for GC's senior management.<br><br>The performance management strategy and the monitoring report are available to view on our GC's website. |
| **Recommendation 28 - FINANCIAL PLANS** |
| GC has developed financial plans, which sit within the HAMP. Progress on the implementation of programmes and allocation of financial resources are dealt with as part of GC's wider capital programme, including periodic reports to cabinet. |
| **Recommendation 29 - LIFECYCLE PLANS** |
| GC has developed life-cycle scenario plans for major highway assets. The plans are within the HAMP.<br><br>The HAMP is available to view on GC's website. |
| **Recommendation 30 - CROSS ASSET PRIORITIES** |
| GC considers cross asset priorities when developing future programmes of work. This is evidenced by the development of recent carefully programmed and managed cross asset major scheme programmes. |
| **Recommendation 31 - WORKS PROGRAMMING** |

GC has developed a two to three year works programme for major highway assets. This programme is reviewed annually against the most up to date condition data, resources availability and priorities.

Our works programmes consider cross asset priorities in accordance with the maintenance hierarchies.

**Recommendation 32 – CARBON**

GC has considered the impact of its maintenance activities to assess carbon costs when procuring contracts. Procurement teams ensure consideration is given to the reduction of carbon work in progress will be closely monitored to identify any improvements to reduce our carbon footprint.

**Recommendation 33 - CONSISTENCY WITH CHARACTER**

GC has a dedicated conservation officer who advises when required.

**Recommendation 34 - HERITAGE ASSETS**

GC has a dedicated conservation officer who advises when required.

**Recommendation 35 - ENVIRONMENTAL IMPACT, NATURE CONSERVATION AND BIODIVERSITY**

GC has considered the impact of its maintenance activities on environmental impact, nature conservation and biodiversity. Consideration is given when carrying out maintenance activities on trees, verges, green areas and the impact on the wildlife.

**Recommendation 36 - MINIMISING CLUTTER**

GC considers the removal of redundant street furniture when undertaking reactive and planned highway infrastructure maintenance activities. When a highway infrastructure asset is damaged or knocked down consideration is given and a decision taken whether the asset should be replaced.
This is undertaken in line with the Department for Transport's de-cluttering guidance.

# Section 2

# Highway Maintenance Procedures

## 2.1 Legal framework

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: most claims against authorities relating to highway functions arise from the alleged breach of this section.

Section 58 provides a defence against action relating to alleged failure to maintain on grounds that the authority has 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. Compliance with the CoP is an important element in demonstrating a section 58 defence.

## 2.2 Local network

The total length of the highway network in Gateshead is 560 miles (900km).

The road network reflects the mixed character of Gateshead, ranging from major urban routes carrying large volumes of traffic to more lightly used rural roads providing access to outlying villages. It includes some 740 miles (1191 km) of footway, 36,000 street lights, 289 bridges and other highway structures, and 170 traffic signalled junctions or crossings.

Table 1 – road lengths in Gateshead (miles)

| Road length | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|
| Motorways | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 |
| A roads | 46.0 | 46.0 | 46.0 | 46.0 | 46.0 | 46.0 |
| B roads | 28.4 | 28.4 | 28.4 | 28.4 | 28.5 | 28.5 |
| C roads/unclassified | 482.6 | 484.0 | 485.1 | 485.3 | 485.5 | 496.0 |
| Total | 560.3 | 561.7 | 562.8 | 563.0 | 563.5 | 563.8 |

## 2.3 Maintenance inventory and hierarchy

The essential elements of an effective highway maintenance strategy are:

- a relevant inventory;
- a defined maintenance hierarchy for all highway assets;
- clear policies objectives and standards for inspection and maintenance.

## 2.4 Inventories

The collection and updating of information on GC's highway assets is central to the successful implementation and future development of the HAMP and the HMP. Reliable accurate data is an essential element in supporting effective decision making and in ensuring the correct priorities are identified. Section 2 of the HAMF details GC's asset information strategy.

GC has its highway asset data maintained in an electronic format using a computerised management system. Detailed inventories of the asset are available and allow repairs and defects to be accurately located and trends monitored to prepare budgets for forward planning.

## 2.5 Network hierarchies

The network maintenance hierarchy is the foundation of the system of routine safety inspection. Detail of the hierarchy adopted by GC is contained in appendix 1.

The hierarchy reflects the needs, priorities, strategic importance and use of each road in the network. The hierarchy is regularly reviewed to reflect changes in street characteristics and use. As part of the adoption of the new COP (in October 2018) a full review of the network has been undertaken.

The network maintenance hierarchy informs the frequency and method of safety inspection and is also used as a weighting factor to inform the response times for routine or reactive maintenance (appendix 1).

## 2.6 Inspection and assessment

The establishment of an effective inspection regime incorporating inspection frequencies, items to be recorded and nature of response supported by an assessment procedure based on risk probability is the key element in addressing the fundamental objectives of our highway maintenance plan:

- network safety
- network serviceability
- network sustainability.

The inspection regime is applied systematically and consistently, and a standardised comprehensive recording system based on the inventory is adopted so that the risk assessment procedure is clear and transparent. (Appendix1). This also allows for inspection records to be digitally recorded along with any subsequent works orders which is critical for dealing with third party claims and repairs management.

### Safety inspections

Appendix 1 to this Plan describes the regime of safety inspections that GC will

deploy. Associated processes and procedures for condition inspection, assessment and guidance for inspectors is described in appendix 1

Safety inspections are designed to identify all defects likely to create danger or serious inconvenience to users of the network or the wider community. The Highways Act 1980 Section 41 requires GC to maintain the highway for which they are responsible. Section 58 of the act provides a statutory defence to a claim made for breach of the section 41 duty to maintain. This document and associated appendix 1 provide a framework for GC to use in that defence.

GC's safety inspection regime forms a key part of the strategy for managing liabilities and risk. It comprises the following elements which are explained in detail in appendix 1:

- network hierarchy;
- frequency and mode of inspections;
- defect investigatory levels (i.e. degree of deficiency);
- repair and response times.

**Service inspections**

We define service inspections as a combination of safety and condition inspections. Individual asset service inspections will be determined by applying a risk based approach to identify if a supplementary safety inspection is required.

On occasions there may be a requirement to carry out a bespoke service / condition inspection. Appendix 4 details service inspections and frequencies for a number of highway assets as follows:

- carriageways, footways and cycle routes;

- highway drainage;

(service inspections of highway drainage systems are dealt with in appendix 3)

- embankments and cuttings / retaining structures;

(service inspections of this nature are dealt with in section 3 of this document).

- landscaped areas and trees;

- fences and barriers;

- traffic signs and bollards;

- road markings and studs;

- road traffic signals and pedestrian crossings;

- road lighting;

(service inspections of street lighting are dealt with in section 4 of this document).

**Condition surveys**

Condition surveys are undertaken to ascertain information on the nature and severity of carriageway deterioration in order to determine the most appropriate maintenance treatment and hereby ensuring value for money. Details of the frequency and type of condition surveys are is provided in the information strategy of the HAMF document section 1.

**Skidding resistance policy and surveys**

The skid resistance policy and practice (including the inspection and assessment methods) is provided in detail in appendix 2.
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**Highway drainage systems**

The inspections and maintenance of highway drainage is documented in the highway drainage strategy,this document can be found at appendix 3.

**Inspections for regulatory purposes**

A significant element of highway maintenance comprises regulation and enforcement of activities on or affecting the highway. The most significant of these involves responsibilities under the New Roads and Street Works Act 1991. These matters are incorporated within the statutory duty for network management imposed by the Traffic Management Act 2004 and are the responsibility of the network/traffic manager.

## 2.7 Competence

GC has developed a competency framework document to align with the principles of ISO55000. The key roles associated with this Plan are included in the competency framework and in particular training for staff involved in highway inspections. For further information refer to the HAMF section 7.

## 2.8 Programming and priorities – highways

The process to develop a works programme for asset maintenance comprises the identification, prioritisation, optimisation, programming and delivery of schemes. It should meet the annual budgets that have been developed.

The process for identifying candidate schemes and developing a programme of works is described in the following paragraphs and summarised in the diagram below.


## 2.9 Balancing priorities by type

The broad priorities for the respective types of highway maintenance will largely be determined by the outcome of safety and service inspections and condition surveys, assessed against local risks and policies. It will be important to establish priorities and programmes for each of the following:

- emergency and 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;
- regulatory functions – regulating occupation, interference or obstruction of the network;
- winter service – providing locally defined levels of service of salting and clearance of ice and snow.

# Section 3
# Bridges & Structural Maintenance Procedures

### 3.1 Legal framework

Section 328(2) of the Highways Act 1980 states;

Where a highway passes over a bridge or through a tunnel, that bridge or tunnel is to be taken for the purposes of this act to be a part of the highway.

The definition of bridge does not include a culvert but means a bridge or viaduct which is part of the highway and includes the abutments and any other part of a bridge.

If the highway is in a cutting the authority must maintain the sides of the cutting similarly if retaining walls flank a highway those walls are also likely to be maintainable by the authority whether or not the abutments and walls are vested with the authority.

### 3.2 The Asset

Table 3.1 summarises the bridges and other highway structures associated with Gateshead's highway network.

| Route Classification | Bridge | Retaining Wall | Culvert | Footbridge | Subway | Sign Gantry |
|---|---|---|---|---|---|---|
| Primary route | 13 | 42 | 2 | 7 | 11 | 1 |
| Other Principal | 54 | 8 | 0 | 3 | 4 | 6 |
| B & C Class | 19 | 17 | 12 | 4 | 2 | 0 |
| Unclassified | 13 | 52 | 3 | 13 | 3 | 0 |
| **Total** | **99** | **119** | **17** | **27** | **20** | **7** |

Table 3.1

### 3.3 Inspection and Maintenance

The highway structures stock currently inspected is:

- bridges, footbridges, buried structures, subway underpasses and culverts with a clear span or internal diameter greater than 0.9m;
- retaining structures irrespective of height whose dominant function is to retain earth;
- high masts for lighting 20m or more in height;
- sign and signal gantries.

## Inspection types

The council uses the bridge management computerised system to assist the bridge manager and others in the management and inspection of highway structures. GC has 6 different categories relating to inspections:

- general inspections are visual condition records of representative parts of the highway structure that are visible from ground level;
- principal inspections are close examinations of all parts of the highway structure and may include limited testing;
- safety inspections are an examination of the condition of a particular element of a highway structure arising from information received of a highway structure being damaged or unsafe;
- a special Inspection is a detailed examination of a particular element of a highway structure arising from specific circumstances, e.g. post-tensioned structures;
- monitoring is an observation or measurement repeated periodically or continuously over time set up by the bridges / structures manager;
- routine surveillance is a cursory inspection of a highway structure to identify obvious defects.

## Inspection frequencies

- All highway structures except retaining structures, should receive a general inspection every two years.
- All highway structures associated with the adopted highway network should receive a principal inspection at an interval determined using a risk assessment undertaken by the bridge manager in accordance with the notes for guidance.This is usually not longer than every six years.
- To ensure the general duty of care to the public, those structures identified as significant property retaining walls adjacent to the highway or highway retaining walls outside of the highway boundary should receive routine surveillance. Additionally, those retaining structures associated with other highways, should receive routine surveillance.
- The bridge manager is responsible for reviewing the scheduled inspections at the end of each financial year. Inspections which were not completed should

be identified. The bridge manager should justify the omission of a scheduled inspection through a risk assessment process.

- A safety inspection is always undertaken following a routine surveillance report or after information has been received which indicates a highway structure is damaged or unsafe.

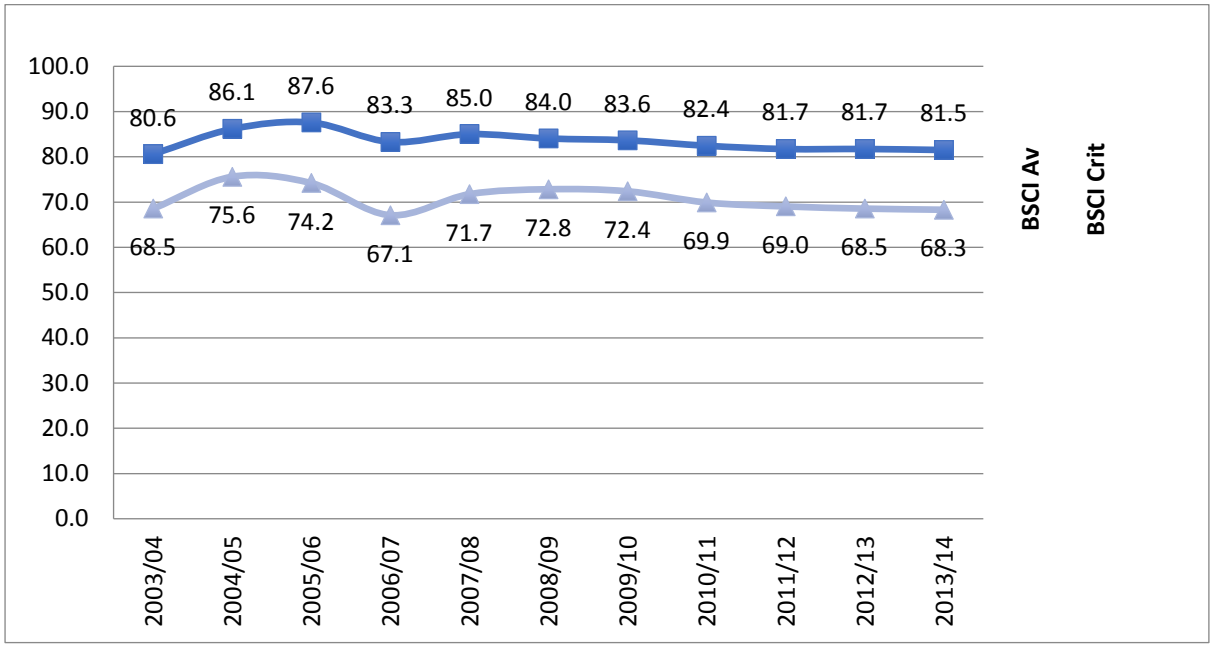
Prior to undertaking a general or principle inspection the bridge inspector will undertake all preparatory considerations related to safety and the environment in accordance with the inspection manual for highway structures. On completion the captured data from the inspections is added to the computerised data base.

### 3.4 Competency

The GC structures/ bridge manager is a chartered civil or structural engineer with appropriate experience The bridge inspector is the competent person undertaking the inspection and monitoring on behalf of the highway authority. The bridge manager also implements regular in-house inspection meetings to assess the consistency and competency of bridge inspectors. Additional ad-hoc inspection meetings at a regional area level may take place to further assess the consistency and competency of bridge inspectors

### 3.5 Forward Planning

As explained in 3.3 general inspections (GI) are undertaken every two years and principal inspections (PI) usually every six years. The element condition is observed and assessed during the GI or PI and from this a Bridge Condition Index for each bridge is calculated. The overall Bridge Stock Condition Index ($BSCI_{av}$) is calculated by weighted deck areas of the $BCI_{av}$. The score is based on a scale from 0-100, with a score of 100 indicating a very good condition and 0 a severe condition.




Gateshead Bridge Stock Condition Indicator (BSCI

GC has good inventory coverage of data relating to bridges and other highway structures. This information is held on a computerised database. Levels of service are in development, and a forward programme of works is already in development.

### 3.6 Funding

Maintenance requirements are identified during the inspections, the cumulative cost of all work identified in the structures workbank, the current value of which is £3.0m.The overall condition of bridges and other highway structures stock is fair but is deteriorating gradually. The current level of funding is unlikely to halt this decline and the structures workbank is likely to increase.

Details of the levels of capital and revenue maintenance funding available for bridges and structures is provided in the are available in the HAMP

# Section 4

# Street Lighting Maintenance Strategy

## 4.1 Legal framework

The term “Street Lighting” encompasses all illuminated assets on the adopted highway including street lights, signs, bollards and other street furniture.

Under the Highway Act 1980 section 97 the Council has the power but not the duty to provide street lighting. Where street lighting is provided on the adopted highway, under section 41 of the same act the Council is required to keep it in a safe condition.

## 4.2 The Asset

The Council currently manages and maintains over 32,000 street lights and illuminated signs. The inventory increases each year as new developments are adopted.

The structural condition of older columns is a matter of concern. There are a large number of relatively old columns in Gateshead which are approaching the end of their life and will need replacement. This includes a number of ageing concrete and tubular steel columns, likely to total up to about 1/3 of the current stock.

Replacing older columns with new ones will also have advantages in terms of enabling maximum benefits to be gained from the current lantern replacement programme which GC is undertaking. Funded through prudential borrowing as part of the Council’s capital programme this £11 million programme will look to cut electricity requirements by up to 50%. This is achieved through:

- replacement of existing lanterns with new low energy ones;
- installation of a central management system allowing better control of street lights, including dimming of lights at certain times. The central management system will also bring additional benefits in terms, for example, of improved fault detection.

Although principally aimed at reducing energy costs fitting the new lanterns on modern taller columns would provide improved lighting.

## 4.3 Inspection and Maintenance

### Highway Lighting Inventory and Condition

The current inventory of Street Lighting assets across Gateshead are recorded and stored on Mayrise which is GC’s highway asset management database. Mayrise will hold comprehensive asset data including geographic data, apparatus data, and operational data such as installation dates and works order history. Mayrise is also used in the development of a life cycle plan of its assets.

## Central Management System (CMS)

The Council uses Harvard as its host for its Central Management system (CMS). Currently all lighting stock information is on the CMS. The CMS allows proactive maintenance and removes the need for night time scouting. The CMS is also used to trim and dim lights in accordance with required lighting class and council policy.

## Response Times

For routine issues the council has a 5 working day response rate for repairs**.**

## Electrical testing

The council will carry our periodic electrical testing once every 6 years in accordance with the Electricity at work regulations 1989 and BS 7671:2008 Requirements for electrical Installations Guidance Note 3 Inspection and Testing, routine checks will be carried out as convenient

## Structural testing

The council will ensure that regular structural testing is carried out. This will be in accordance with the Institute of Lighting Professionals Technical Report 22. Columns will be selected on a risk based approach.

## New Developments and Adaptions

All street lighting columns installed on the highway shall comply with the requirements in the current edition of GC's designers guide.

## Competency

All staff managing and monitoring the service shall be suitably trained, experienced, have the skills and equipment to perform the task. The council will continue to monitor the training needs to ensure that there is the appropriate skills and supervision to ensure that the system is maintained.

## 4.4 **Street Lighting Objectives**

The council believes that well designed and maintained street lighting makes a positive contribution to outcomes of businesses and residents of Gateshead.

The principle objectives of the provision and maintenance of Street lighting are:

- Provision of a safe network for all users, considering particular needs of vulnerable groups.
- Protection of the night time environment by ensuring lighting levels reflect the diversity of the borough.
- To maintain lighting to a standard that allows safe use of the network during the hours of darkness.
- To sustain the night time economy of the borough

The council is also committed to minimising its energy consumption through innovation and strategies. The largest saving that the council can make within street lighting is through reducing the energy consumption associated with street lighting and other illuminated highways infrastructure. The council will use the following measures to do this:-

- **Light Source**, historically street lights within the borough have been low of high density sodium lanterns. These lanterns consume more energy and have more maintenance issues than white light alternatives. The council is currently working on a invest to save project which will see all lighting stock converted to LED by 2021.

- **Trimming,** taking advantage of the immediate full power of LED lanterns to switch on, switch off when ambient lighting levels are at the required level.

- **Dimming,** use of the highway can be very different during the hours of darkness. The council will, where appropriate make use of current technology to dim lighting installation during these periods. Lighting levels will not fall below those recommended for road usage,and will comply with council policy in all other areas.

- **Part Night Switch Off,** where conditions permit the council will consider switching off street lights between the hours of midnight and 5am. This would be subject to consultation and risk assessments.

The provision of illuminated signs and bollards to inform the movement of traffic safely at junctions and other locations will contribute to user safety.

The council is also committed to reducing the number of illuminated signs and bollards to a minimum. Where these assets are damaged or require replacement as a result of deterioration they will only be relit when still required to be so under the regulations within the Traffic Signs Regulations and General Directions 2016-8.

### 4.5 Forward Planning

Our asset management policy is committed to asset management best practice. We will continue to update current inventory and condition collection programmes. This will improve the performance of the asset and set the foundations in place for future programmes to prioritise maintenance effectively and efficiently.

### 4.6 Funding

We will be utilising our knowledge of Street Lighting infrastructure across the borough to develop capital schemes where deemed appropriate. These schemes will demonstrate evidence based decisions on Street Lighting improvements, enabling us to bid for capital funding (such as the Department for Transport (DfT) Challenge Fund). We will consider bids based on new information as it becomes available.