

Leicestershire County Council

# **Highway Asset Management Strategy**

# Document Control

## Control details:

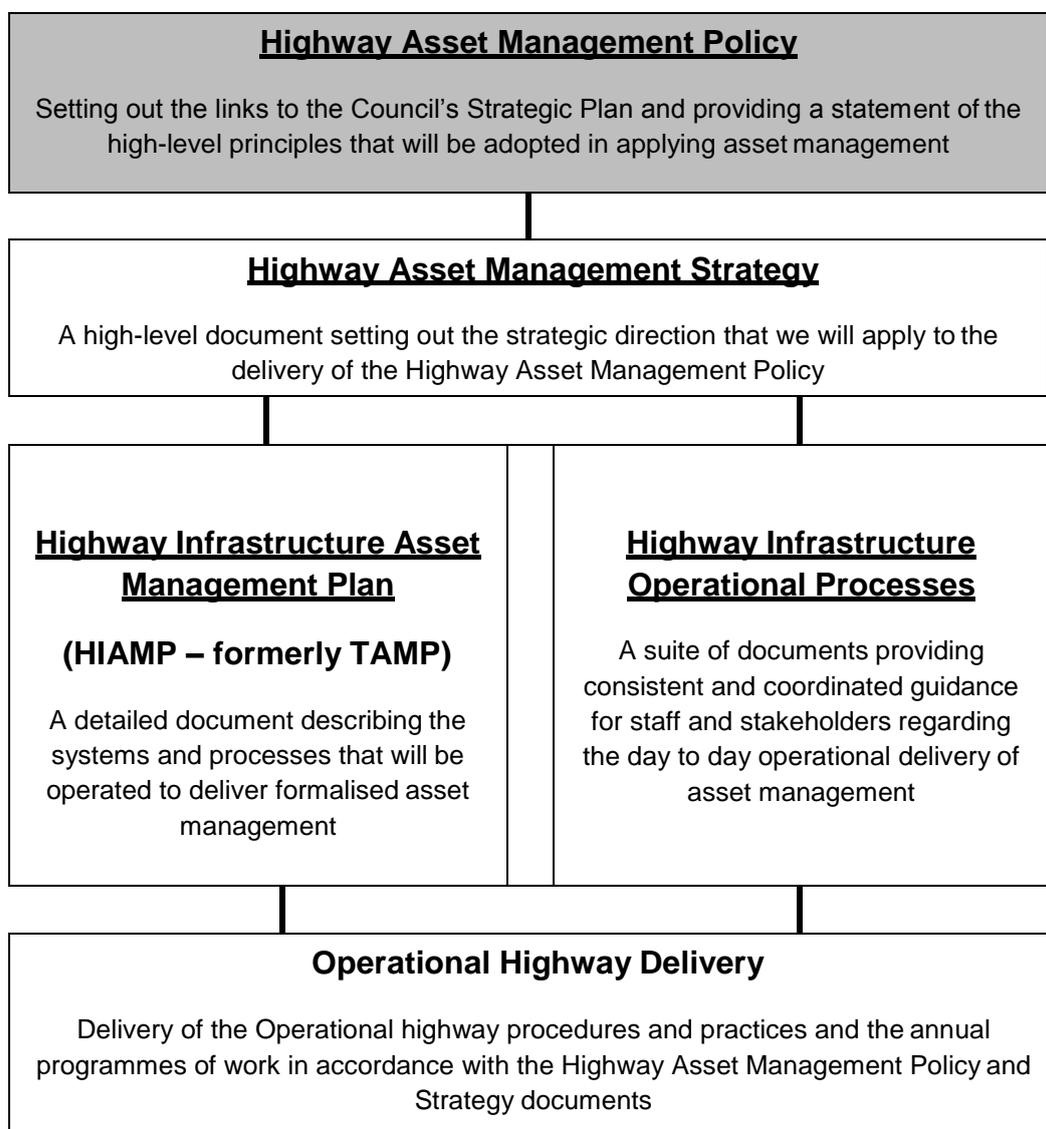
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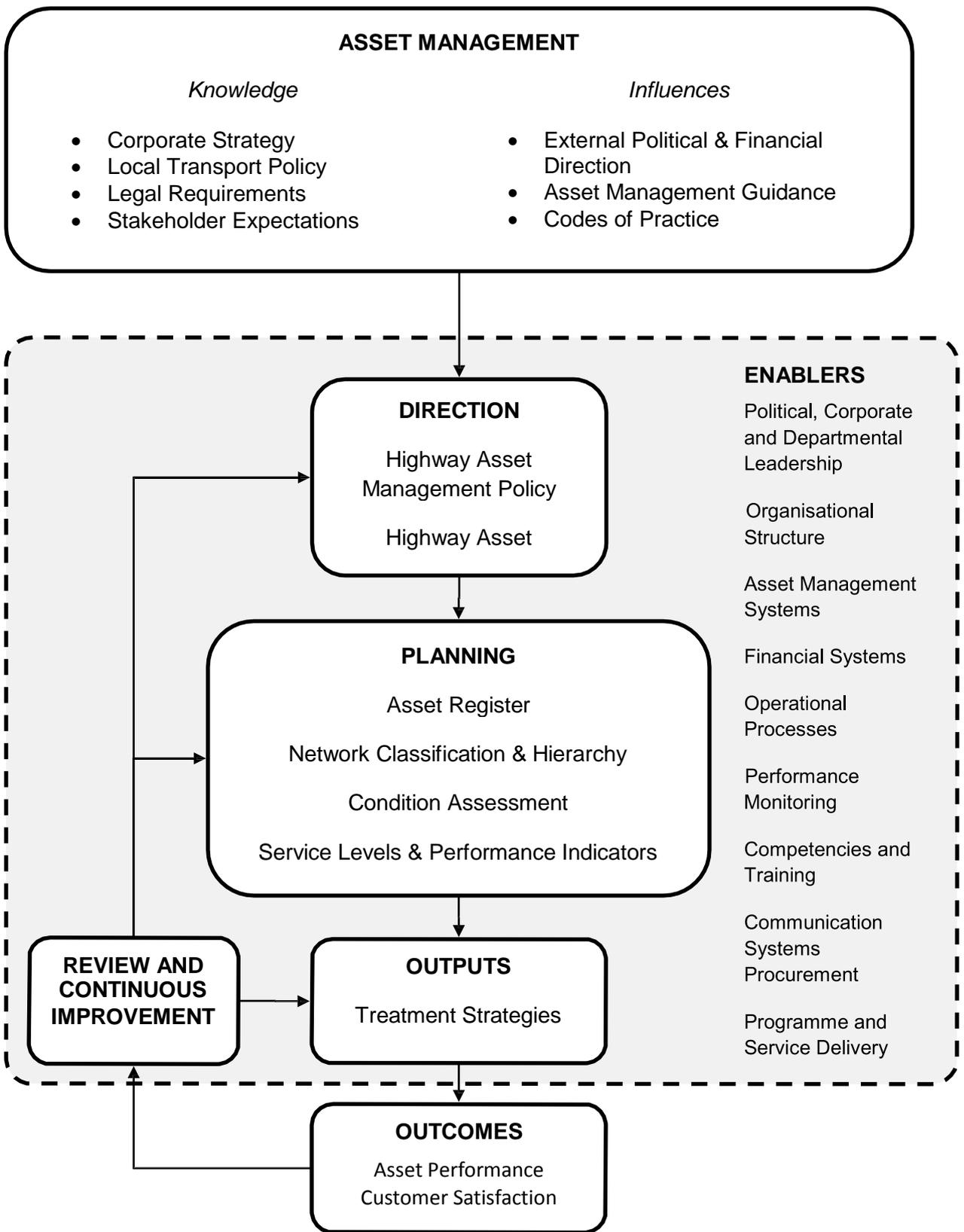
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# 1. Purpose

- 1.1. This document sets out the broad objectives and the strategic direction that the County Council will adopt in support of the policies and supporting principles set out in our Highway Asset Management Policy.
- 1.2. In conjunction with the Highway Asset Management Policy, it informs the Highway 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 (see asset management framework diagram below).





## 2. The Challenge

- 2.1. Leicestershire's highway network is a functional asset which faces continual pressure from increasing use and the impacts of weather. Deterioration of the many elements of this network is inevitable and the County Council must continuously make decisions about when, how and where to intervene and undertake repairs or renew the assets. These decisions are becoming increasingly difficult due to the challenging economic circumstances in which the County Council is currently operating.
- 2.2. Formalising a strategic approach to maintaining highway assets is therefore essential to ensure that appropriately informed, cost-effective decisions are made about the treatment strategies that we apply.

## 3. The Core Elements of our Strategy

- 3.1. This document considers the strategic approach to nine core elements of our asset management plan. When considered together these strategies will ensure that we make the best possible treatment decisions and that the finite resources available to the County Council deliver the best possible outcomes for its stakeholders consistent with the County Council's statutory duties as the Highway Authority.
- 3.2. The core elements are represented in diagram 3.1 overleaf.
- 3.3. The Highway Infrastructure Asset Management Plan (HIAMP) will provide further operational details about how we will apply our strategy for each of these elements (see asset management framework diagram above).

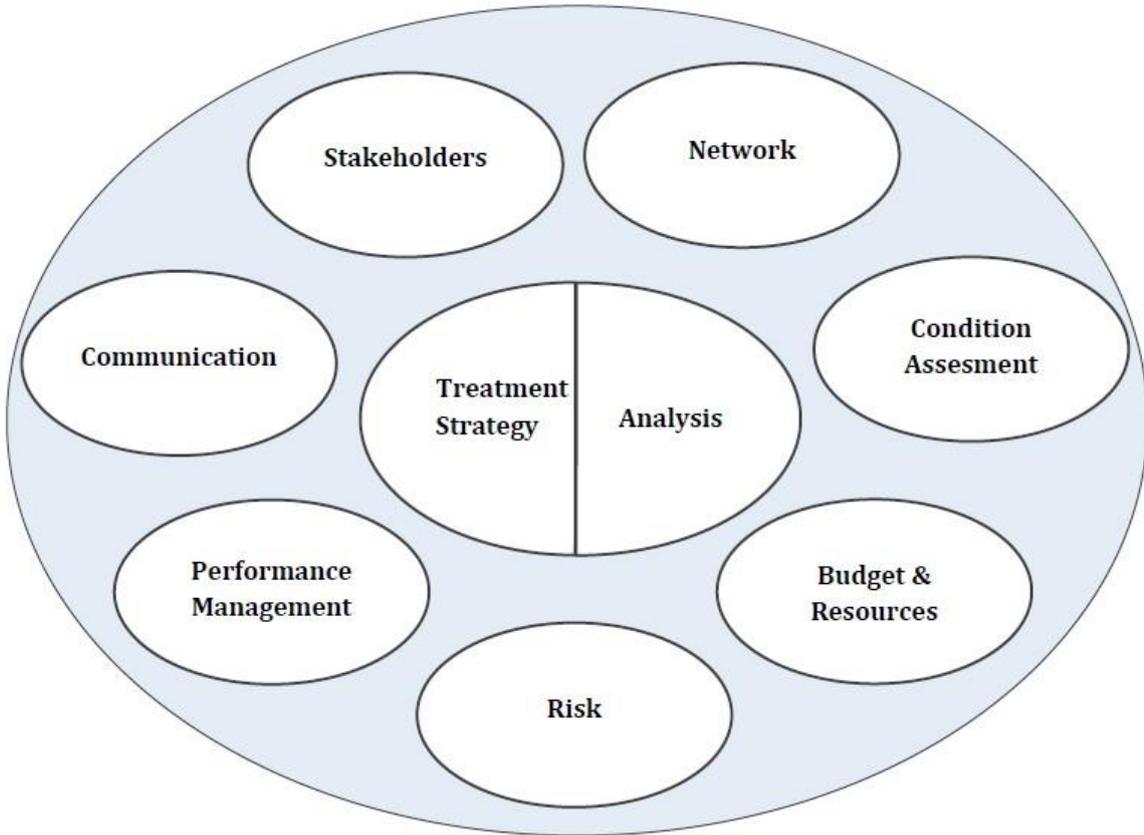
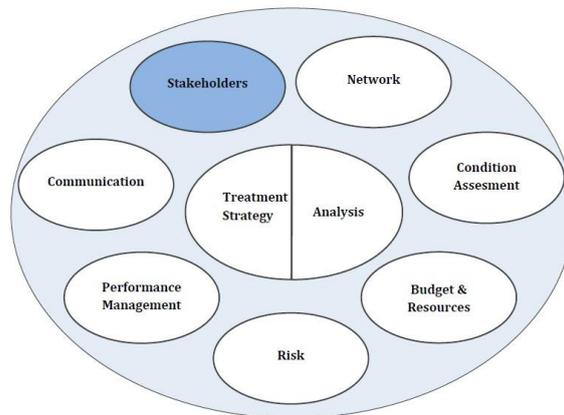


Diagram 3.1 Asset Management Strategy - Core Elements

#### 4. Stakeholders (i.e. Anyone who has an interest in Highways)

4.1. The principal purpose of asset management is to ensure that our network meets the needs and expectations of our stakeholders. It is therefore fundamental that the County Council listen to and communicate with stakeholders on an ongoing basis.



4.2. As part of developing this highway asset management strategy and policy the County Council carried out a comprehensive consultation exercise with stakeholders to improve our understanding of stakeholder expectation about

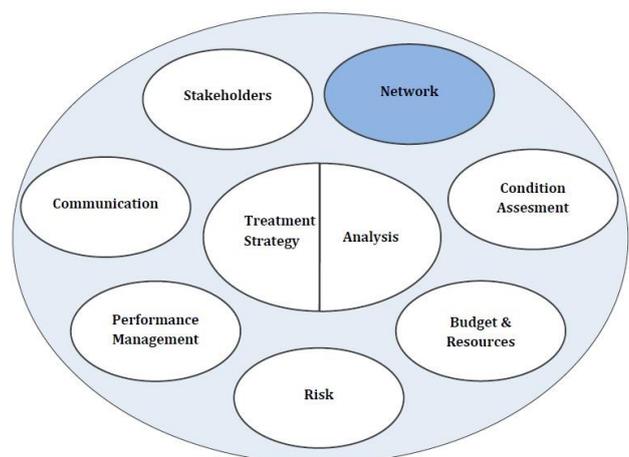
the network and its condition, the acceptance of current service levels and the support for proposed changes in delivery.

- 4.3. The County Council has subscribed to the annual National Highways & Transport (NHT) customer satisfaction survey since 2008 and it is our intention to continue this. We will also continue to assess the results of the survey and use this information to inform future decisions on highway maintenance.
- 4.4. The County Council have been managing our day to day customer enquiries since 2005 through the “Confirm” Highway Management System (HMS). More recently we have developed “dashboard” style reports for particular service areas which accumulate enquiries by type and area. We will extend this reporting to help us to identify both local and strategic weaknesses in the network or our service, for example by highlighting the levels of drainage related reports during a certain period or by locality.
- 4.5. We are also investigating options to facilitate the involvement of Parish Councils more directly into local highway maintenance. This may include a Highway Warden scheme which would strengthen communication and improve our awareness of and response to local concerns about service levels.

## 5. The Network

- 5.1. Understanding our network is fundamental to the delivery of strategic asset management and this begins with an inventory of our assets. The council holds a substantial amount of inventory data, particularly about our key assets; carriageways, footways and cycleways, structures, street lighting and drainage and it continues to expand its knowledge through its asset management approach.

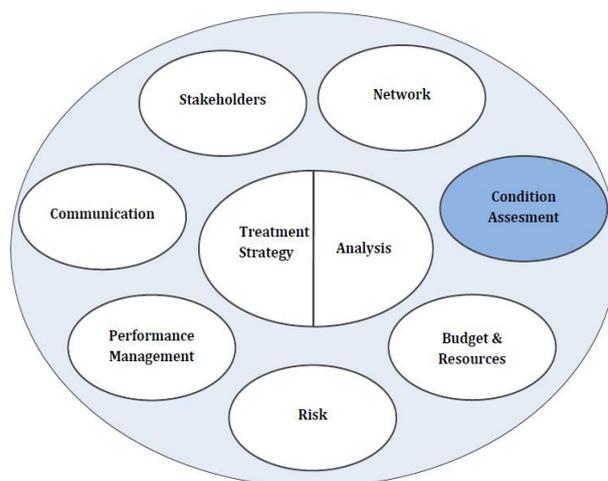
- 5.2. We will continue to review our inventory and consolidate our Asset Register. We will also undertake a gap-analysis of inventory data. The County Council employ various hierarchies and network categorisations in the current management of our network. Sub-sets of road classification are used for reporting carriageway condition and for apportioning the annual maintenance budget.



- 5.3. To support a clearer strategic approach and to conform to the new Code of Practice the County Council are reviewing our local road hierarchy to ensure that it reflects stakeholder expectations, levels of use and strategic importance. We will use this revised local road hierarchy to define our inspection frequencies, to support an assessment of risk, to reflect network condition and to prioritise our treatments.
- 5.4. To develop treatment strategies and to monitor their effectiveness, The County Council are also developing a classification of its network which takes account of the key characteristics that affect the deterioration of carriageways; commercial traffic volume, adequacy of foundation, carriageway width and the presence of edge restraint.
- 5.5. We are also developing a Resilient Network. During extreme weather, We currently focus resources on the Winter Service network, which breaks the whole network down into four levels of priority. The new Code of Practice "*Well-Managed Highway Infrastructure*" extends the function of the Resilient Network to cover all disruptive events, not just severe weather. Following publication of the new code of practice which provides specific guidance about the identification of the Resilient Network, the County Council has developed an updated Resilient Network.
- 5.6. We are working with partners in Midlands Connect an emerging Sub National Transport Board to identify and define the Midlands "Major Route Network" to coordinate maintenance and management strategies.
- 5.7. The revised Hierarchies and categorisations, aligning to the new code of practice, are shown in the table below.

<b>Network Family</b>	<b>Hierarchy / Classification</b>	<b>The Key Factors that contribute to the categorisation</b>	<b>How the Hierarchy or Categorisation will be used</b>
<b>Resilience</b>	<b>Resilient Network</b>	<ul style="list-style-type: none"> <li>• High level strategic purpose.</li> <li>• Links to major infrastructure and emergency services.</li> <li>• Connectivity with other key transport networks.</li> </ul>	<ul style="list-style-type: none"> <li>• To ensure the network is resilient to severe weather and other major disruptive events.</li> <li>• To support the management of risk.</li> </ul>
	<b>Winter Service Network</b>	<ul style="list-style-type: none"> <li>• Traffic volume.</li> <li>• Road classification.</li> <li>• Strategic purpose.</li> </ul>	<ul style="list-style-type: none"> <li>• Will be used to determine the extent and priority of salting across the County highway.</li> </ul>
<b>Network Management</b>	<b>Major Road Network</b>	<ul style="list-style-type: none"> <li>• Traffic volume.</li> <li>• Strategic purpose.</li> </ul>	<ul style="list-style-type: none"> <li>• Inform strategic funding decisions.</li> <li>• Likely to be key for supporting growth.</li> </ul>
	<b>Traffic-Sensitive Streets</b>	<ul style="list-style-type: none"> <li>• New Roads and Streetworks Act (1991) designates '9' criteria that can be used for defining a street as 'traffic-sensitive'.</li> </ul>	<ul style="list-style-type: none"> <li>• Will be used to determine issuing /pricing of permits.</li> </ul>
	<b>Local Road Hierarchy</b>	<ul style="list-style-type: none"> <li>• Traffic Volume.</li> <li>• Strategic purpose.</li> <li>• Stakeholder expectation.</li> <li>• Recommendation 12 in Highway Infrastructure Code of Practice</li> </ul>	<ul style="list-style-type: none"> <li>• For prioritising treatments and managing risk.</li> <li>• To establish inspection frequencies.</li> <li>• To support our Network Management Plan objectives.</li> </ul>
<b>Asset Management</b>	<b>Existing Road Classification Network</b>	<ul style="list-style-type: none"> <li>• Unchanged (based on the strategic level of the links destination).</li> </ul>	<ul style="list-style-type: none"> <li>• For reporting and comparing condition data through national performance indicators and whole government accounting/asset valuation.</li> </ul>
	<b>Carriageway Maintenance Homogenous Road Group Categorisation</b>	<ul style="list-style-type: none"> <li>• Adequacy of structural foundation.</li> <li>• Carriageway width.</li> <li>• Presence of edge restraint.</li> </ul>	<ul style="list-style-type: none"> <li>• To develop, deliver and monitor treatment strategies appropriate to the characteristics of the network.</li> <li>• To support the management of risk.</li> </ul>
	<b>Reinstatement Category</b>	<ul style="list-style-type: none"> <li>• Based on number of millions of standard axels (msa) carried by the road over a 20 year period.</li> </ul>	<ul style="list-style-type: none"> <li>• Will be used to determine the price level for permitting.</li> </ul>

## 6. Condition Assessment



- 6.1. Monitoring the condition of our assets is a fundamental component of asset management in order to demonstrate;
- The levels of service that we are delivering,
  - Identify trends in improvement or deterioration,
  - Identify priorities for focussing 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).
- 6.2. We undertake comprehensive annual surveys to collect condition data on our entire carriageway and footway asset (SCANNER, Griptster and CVI), updating the data through a continuous four year cycle. This data is collected and analysed within the UKPMS framework. The County Council do not intend altering its current levels or methods of UKPMS condition data collection.
- 6.3. The County Council undertake scheduled safety inspections of all highways except on its rights of way network and some of our unsurfaced minor roads, to identify and respond to deterioration that is likely to cause a significant risk to users. Once we have implemented the strategy for revising our network hierarchies and in order to develop our risk-based approach in line with the latest guidance, we will revise and update the frequency of these inspections. Frequencies will be established in accordance with the level of risk associated with each level of the local network hierarchy (see section 5) and aligned with the level of available inspection resource. This will help us

to identify and respond more effectively to the most critical defects on the network.

All highway bridges are inspected every two years and their condition is scored using the national Bridge Condition Index (BCI) method and recorded on Highways Management System (HMS). This data, along with an understanding of the route importance, enables the identified maintenance works to be prioritised.

## 7. Budget and Resources

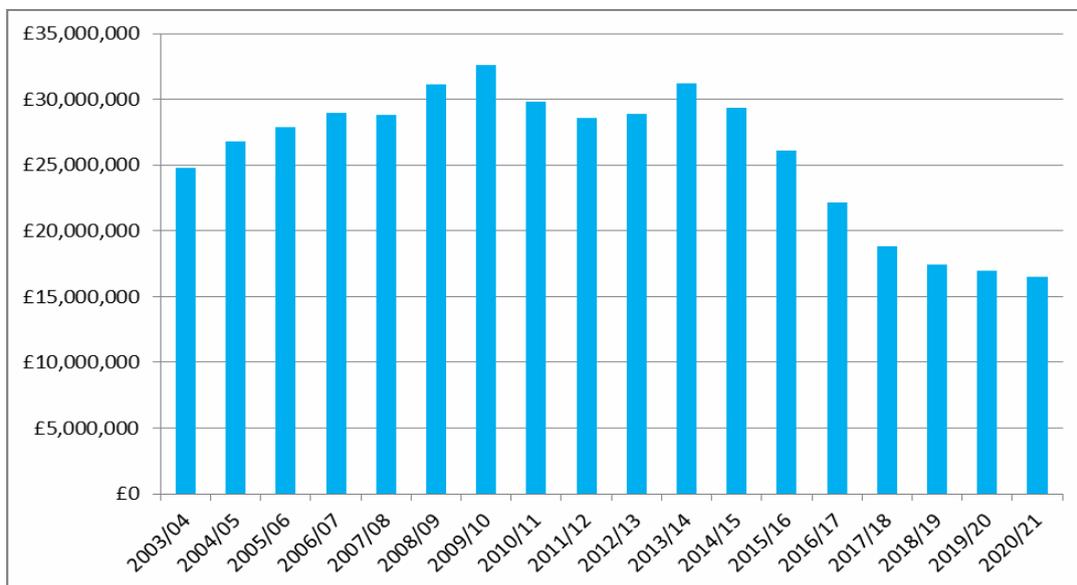
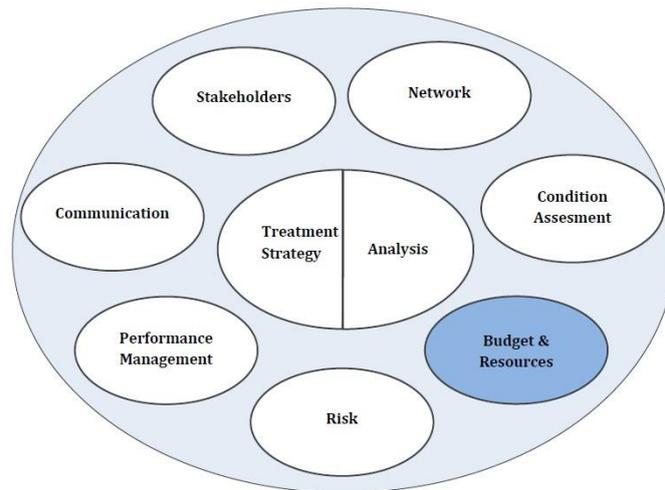


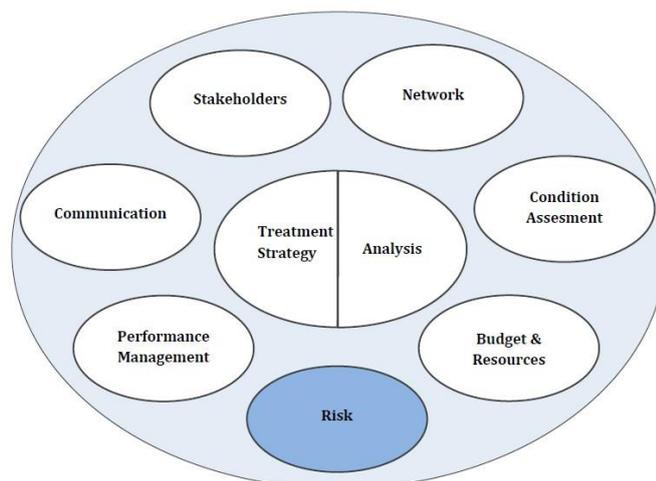
Diagram 7.1

- 7.1. The budget projection between 2009/10 and 2020/21 represent a a reduction in real terms of 78% in spending power when inflation is factored in. This level of budget reduction will require a significant change of approach and is unlikely to be accommodated without an impact on service levels.

- 7.2. Through the Medium Term Financial Strategy (MTFS) process the County Council has been and continues to be pro-active in dealing with the budgetary pressures that it faces.
- 7.3. The development of a revised approach to asset management and future review of our staffing structure and services are part of the County Council's response to budgetary pressures.
- 7.4. When additional funding is made available for asset management it will be utilised using the principles outlined in this strategy where appropriate.

## 8. Risk

- 8.1. The analysis of risk applies to asset management from a variety of different perspectives. These range from the broad strategic and corporate risks, such as the loss of the asset or a significant change in the corporate budget, to those affecting discrete processes or assets such as the risk that an individual defect might present to stakeholders.



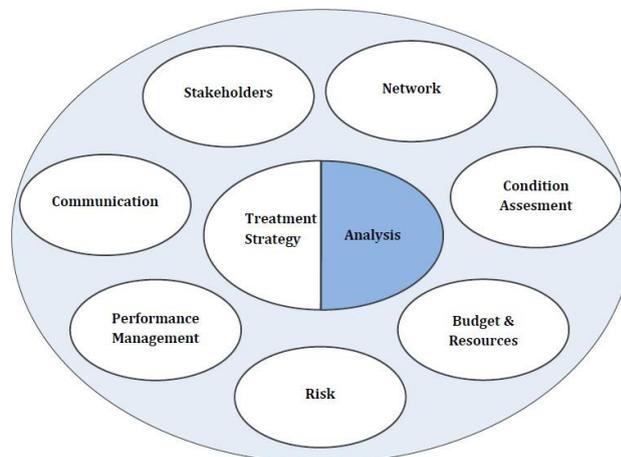
- 8.2. Risk is present throughout asset management because of the extensive treatment options possible with decisions, often made without full understanding of the asset, how it will perform or the consequences of failure. Combined with a variety of uncertain external factors influencing the performance of the network, including weather and changes in budget provision, risk is ever present.
- 8.3. It is not possible to eliminate all risk from asset management. This means that while some mitigation is possible, the usual approach will be to understand the degree of risk and its possible consequences. This then needs to be balanced against the cost of reducing or eliminating the risk as well as the benefits of accommodating the risk.
- 8.4. Risks affecting our strategic objectives are managed across different levels of the organisation involving monthly review and assessment. The likelihood

and severity are factored to provide a score which is subsequently converted to a traffic light Red, Amber, Green RAG rating. Significant strategic or corporate risks are reported through the management chain and consideration given to further mitigation.

- 8.5. More specific risks associated with the maintenance of highway assets will be assessed against an understanding of the strategic importance of the asset or assets concerned. Fundamental to this will include consideration of the local road hierarchy and our Resilient Network. For example an identical pothole on two different carriageways, both carrying the same volume of traffic would have the same impact if a vehicle collides with it. However, it will have a higher priority on one of the carriageways if it is part of a link with more strategic importance.

## 9. Analysis (Life-Cycle Modelling)

- 9.1. The County Council has developed life-cycle plans for carriageways, footways, structures, street lighting and traffic signals. All of these are static assessments of the typical lifecycle that would be applied to these assets in optimum steady-state conditions. They do not include an input of actual budget or consider how different treatments would be triggered by variations in condition. While these life-cycle plans provide a perspective on network need, they do not reflect current budget levels or the frequency of treatment interventions. They also do not include a dynamic assessment of the impact of treatments on condition.



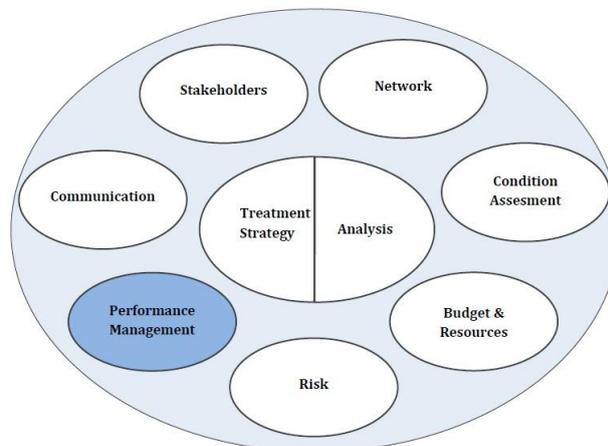
- 9.2. The County Council will continue to employ this straightforward but static analysis of life-cycle planning to many of our minor asset groups.
- 9.3. For all of our key assets, with the exception of drainage where we currently do not have sufficient reliable data about inventory or condition, we will develop, validate and apply dynamic life-cycling modelling techniques. We are currently developing a life-cycle model for our carriageway asset using

the HMEP Life-cycle Planning Toolkit and in due course we will develop models for the other key assets using the same facility.

- 9.4. These dynamic life-cycle models will allow us to model different scenarios in terms of the three-way relationship between condition, treatment and cost. For example we might model the consequences on condition if current spend is continued and compare this with the impact on condition if we apply the anticipated reducing budget. This analysis will be used to support our treatment strategies and to make decisions about the distribution of our budgets.
- 9.5. Life-cycle models will not be used to identify specific schemes or programmes of work. Rather they are tools for testing and managing our treatment strategies and to provide evidence to support and make the case for the allocation of budgets.

## 10. Performance Management

- 10.1. The County Council will include within the HIAMP a Performance Management Framework which will define the indicators that we will use to monitor, inform and develop the performance of our asset management policy and strategy. Many of these indicators are already measured but we will group them in the following way to manage performance through consideration of levels and changes in Asset Condition, Customer Satisfaction, Communication and Asset Management Delivery.



- 10.2. Examples of the performance indicators that we will use in each of these categories are shown in table 10.1 below. Where appropriate, performance indicators will also be categorised to reflect performance in terms of maintaining safety, serviceability and sustainability.

Category	Performance indicator
<b>Condition:</b>	Scanner and CVI Current Condition Indicators Bridge Condition Indicator (BCI) scores Number of Defect Reports (Flooding, Potholes, Blocked Gullies etc) Depreciated Replacement Costs Number of Damage/injury Claims Environmental PIs
<b>Customer Satisfaction:</b>	National Highways and Transport Network (NHT) Customer Satisfaction Survey PI's Customer enquiries (by category) Feedback Forms via letter drops Public consultation feedback
<b>Communication</b>	Response Times (to enquiries) Communication Log (documenting Parish Newsletter articles, press releases)
<b>Delivery:</b>	Internal Asset Management Strategy/Delivery Profiles Climate Change adaptations/Carbon Reduction Strategy Budget/Spend Profiles Unit costs Statutory Inspection Completion Decommissioning by type and quantity Productivity measures

*Table 10.1 Example Performance Indicators*

- 10.3. The County Council also undertakes benchmarking via a number of channels but primarily through its membership of the Midland Service Improvement Group (MSIG) and the Midlands Highway Alliance (MHA), which both comprise a consortium of local authorities from our region and beyond. These groups also provide opportunities for sharing knowledge and innovation.

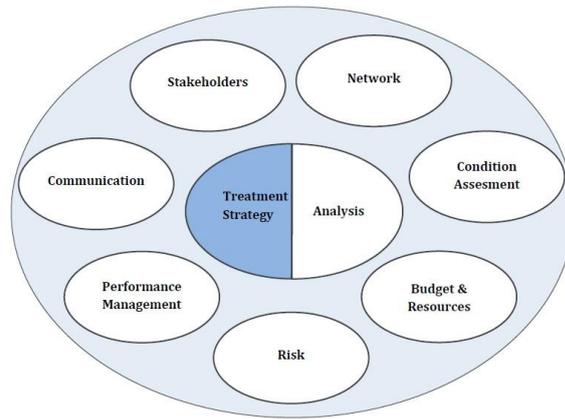
- 10.4. The NHT survey and CQC bench marking provides a further opportunity to compare our performance with other authorities, as does the annual Asphalt Industry ALARM survey, the direct management group and the DfT's summary site showing the annual UKPMS condition returns.
- 10.5. The most recent condition indicators for our Key Assets are shown in Table 10.2. Our HIAMP will set out future condition targets.

PI	Description	2014/15	2015/16	2016/17
Carriageways (All)	% of the classified road network (A, B & C class road) where structural maintenance should be considered (SCANNER)	2%	2%	2%
Carriageways (A Class Roads)	% of the principle road network (A class roads) where structural maintenance should be considered (SCANNER)	1%	1%	1%
Carriageways (B Class Roads)	% of non-principle road network (B class roads) where structural maintenance should be considered (SCANNER)	2%	2%	1%
Carriageways (C Class Roads)	% of non-principle road network (C class roads) where structural maintenance should be considered (SCANNER)	3%	2%	2%
Carriageways (Unclassified Roads)	% of the unclassified road network where structural maintenance should be considered (visual inspection)	8%	7%	9%
Footways	% of the footway network where structural maintenance should be considered (FNS enhanced Survey)	8.6%	3.8%	8.7%
Street Lighting Columns	% of street lighting columns needing replacement	16.21%	14.87%	13.53%
Traffic Signals	% of traffic signal installations requiring complete renewal (age and fault history)	<4%	<4%	<4%
Bridge Spans	% of bridge spans with a BCICrit value below 75	10%	10%	10%

*Table 10.2 Key Asset Condition PI's*

## 11. Treatment Strategies

- 11.1. The significant reduction in the maintenance budget since 2090/10 (see section 7) will require the adoption of different treatment strategies from those previously applied to the network and it is anticipated that some service levels will need to reduce. It is important to recognise that the current condition of the network reflects the good level of preventative treatment and renewals undertaken over the last ten to twenty years and the good overall condition that Leicestershire's road network was in at the beginning of the period of austerity. The consequences of the current levels of investment are unlikely to therefore manifest themselves fully for several years.



- 11.2. The County Council will seek to maximise the serviceable life of assets and therefore reduce the frequency of asset renewals. We will do this by focussing on preventative treatments such as surface dressing for carriageways, re-waterproofing bridge decks and re-pointing brickwork on structures.
- 11.3. To achieve the optimum whole-life cost from our assets, the County Council will intervene with these treatments as late as possible, taking account of the risk and stakeholder tolerance of the decline in service level prior to treatment.
- 11.4. For our carriageway asset the County Council will define its strategies for each road group by categorising the proposed treatments into five strategic types and presenting the strategy in the form of a bar chart showing the proportions of each type we anticipate applying. This will allow us to communicate our strategies in a clear way, to validate delivery of the strategy and to analyse its effectiveness in addressing the immediate safety and serviceability of the network, balanced with long-term sustainability.
- Treatment Type 1. **Reactive-Restorative** – Unavoidable, unplanned, immediate treatments necessary to restore a safe and serviceable condition. The repair is likely to be of limited life and have a poor whole life cost benefit e.g. pothole repairs. The County Council will aim to minimise this type of repair but, particularly on its unclassified network, there will be an expectation that this type of repair will be required frequently due to the vulnerability of foundations and the lack of edge support and definition.
  - Treatment Type 2. **Planned-Restorative** – Scheduled repairs, required to restore local deterioration of the asset to maintain a serviceable condition. Intended to extend the serviceable life and improve whole life cost e.g. planned patching which will be a cornerstone of our carriageway maintenance strategies in the foreseeable future.
  - Treatment Type 3. **Preventative** - Intended to extend serviceable life and desirable to stop or delay further deterioration of the whole asset e.g. surface

dressing. This has long been, and will continue to be, the primary treatment that will ensure we maintain network condition cost-effectively and with an appropriate balance between considerations of immediate safety, mid-term serviceability and long-term sustainability.

- Treatment Type 4. **Improvement** – Intended to bring the asset to an improved level that is fit-for-purpose e.g. strip-widening to manage over-riding damage or deep reconstruction to ensure the foundation is fit for increasing traffic levels. This type of treatment usually has a high up-front cost, but failing to upgrade carriageways that are no longer fit for purpose is likely to incur an even higher whole-life cost due to frequent requirements for Type 1 and Type 2 repairs.
- Treatment Type 5. **Renewal** – Full replacement of an asset deemed beyond a serviceable/maintainable condition and therefore at the end of its lifecycle e.g. full width resurfacing. The county Council will aim to avoid premature renewal of an asset by continuing to maintain it in a serviceable condition where it can be shown that Treatment Types 1, 2 and 3 remain cost-effective.

11.5. Table 11.1 below provides a strategic overview of the broad approach that the County Council will apply to each of our asset groups.

### **Asset/Service Group with Outline Strategy and Service Levels**

#### **Carriageways**

- The County Council have maintained our carriageways to a high standard. Whilst the unclassified rural network is showing some signs of increased deterioration, the County Council still has a network that is in comparatively good condition
- However, the pressures on the minor rural network and the limited budget for surface renewals will make it difficult to maintain existing condition on the rest of the network.
- The County Council will rely even more than we have in the past on carriageway patching and surface dressing to maintain serviceability and sustainability, applying treatments as late as possible without seriously compromising the surface condition.
- However, the County Council will strategically improve pothole numbers, at a time when we are looking to move away from reactive repairs and the costly operation of our mobile road-menders to more proactive repairs.
- Developing the risk-based approach may help us to focus only on those defects that represent a significant hazard, which may offset some of this concern. We have not yet quantified this benefit.
- Unfortunately, a large part of our unclassified road network has no formal construction. These roads have simple “evolved” over the years from their previous stone-picked base through to their initial surfacing, probably bound with coal tar.

- Many of these roads are no longer fit for purpose, lacking the strength, width and edge restraint required to capably carry the traffic loads which they are subject to.
- Over time the County Council has addressed these problems by strengthening, widening and sometimes by providing passing bays and installing kerbs on the insides of bends.
- However, there is little prospect that this type of work will be undertaken in the foreseeable future. These roads will therefore be particularly vulnerable to rapid failure.
- The County Council will consider carrying out additional inspections on these routes.
- If these roads suffer any catastrophic failure the County Council may have to consider temporary long-term closures or speed limits.

## **Footways**

- The County Council will review and develop a footway hierarchy, in line with the new code of practice and develop a risk-based approach to prioritising repairs and renewals.
- Developing our current life-cycle plan, to more effectively model the performance of the county's footways, is a key objective to inform future strategies and resource requirements.
- Our footway network is in reasonable overall condition, but does show signs of its age and will continue to require an extensive programme of renewal to maintain a steady-state in the overall condition.

The County Council will:

- Continue to undertake appropriate preventative treatment.
- Specifically review the use of a small number of remote rural footways, which are in poor condition but due to extremely low levels of use these are unlikely to be priorities for renewal.
- Therefore designate an additional category within the hierarchy that reflects the low level of use and assigns maintenance standards comparable with our public rights of way network.

## **Cycleways**

- Cycleways are currently managed as an integral part of either our footway or carriageway assets;
- The County Council will develop a separate inventory of cycle routes. This will enable the Council to:
  - Understand the specific performance of the routes designated for cyclists
  - Apply cyclist-specific risk assessments, and
  - Develop service levels appropriate to cycling.

- Whilst reductions in the budget will need to be accommodated the benefits of a more focussed and risk based approach will help to sustain the overall service level.

## Drainage

- 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.
- The County Council do not have a comprehensive inventory of all of our drainage assets, but a programme is in place to capture information about all of our culverts and the County Council intend extending this to include catchpit details.
- With the exception of our carriageway gullies, where we have a comprehensive inventory and have been capturing data about detritus levels, the County Council have very limited data about the condition of the drainage asset.
- In addition, most of our interventions other than routine gully cleansing, are reactive and in response to reports of flooding or blockages.
- To support the risk-based approach promoted by “*Well-Managed Highway Infrastructure*” the County Council are in the process of applying such an approach to gully cleansing, where the knowledge we have acquired about detritus build up will contribute to the assessment of risk.
- A targeted approach to gully cleansing, rather than the current prescriptive fixed frequency, regardless of risk, will help to improve service levels but is unlikely to provide cost savings in the short term due to the current backlog of this work.

## Street Lighting Columns

- The County Council are currently undertaking a three year programme to upgrade all 68,000 of our lighting columns with LED lanterns which will secure significant savings in our energy cost.
- The County Council face a growing issue with a backlog of columns in need of structural renewal.
- A recent review of our testing techniques has suggested that we may be underestimating the number of columns in need of replacement.
- Further analysis of the risks is currently taking place, but it seems likely that the current renewal budget Will need to be reviewed
- A number of options to manage the risk and reduce the future financial liability is being considered.
  - In the short-term consideration will be given to removing and temporarily capping unsafe columns

- In the mid-term we will refine our testing processes and the criteria for renewal to see if we can extend the overall operational life of our stock without extending risk
- In the long-term by rationalising the number of columns through localised reduction as part of the ongoing renewal programme (although this is likely to have an up-front additional cost and viability will need to be considered on a case by case basis)
- In the long-term by installing columns that have a longer design-life (again there would be an additional upfront cost).

## Traffic Signals

(e.g. signal junctions, pedestrian crossings, school flashing lights)

Traffic signals are a key asset in terms of Network Management. The County Council will continue to maintain service levels to ensure efficiency and reliability of the network.

This will include completing a 3 year programme to upgrade the communications telemetry through which we control and receive system management data.

## Structures

(e.g. bridges, subways, culverts, retaining walls)

- Our structures concentrate the greatest amount of asset value into very discrete parts of the network and any failure is likely to be disruptive and costly to address.
- For this reason, structures are designed as long-term assets and they require ongoing preventative maintenance to maximise their lifespan.
- The County Council therefore consider that it is important to continue to maintain our structures in their current condition.
- The County Council will continue to target that no more than 10% of our bridge stock has a Bridge Condition Index (BCI) score less than 75 (out of 100) – a score at this level or below represents a structure in ‘Poor’ or ‘Very Poor’ condition.
- The County Council will target bridge repairs using a risk-based approach that will consider safety, immediate serviceability, long-term viability of the structure, network resilience and commercial traffic volumes (initially based on network hierarchy).
- Treatments to prolong the life of a structure will include brickwork repointing, concrete repairs, painting of steel beams and deck re-waterproofing.
- Treatments that prolong the life of non-structural components include parapet re-painting and general repointing.
- The renewal of life-expired major bridges is expensive, for example we have two significant bridges currently in need of replacement which are currently unfunded.

## Safety Fencing / Vehicle Restraint System

- The County Council have recently undertaken a comprehensive testing and inspection programme for all of its vehicle restraint systems and developed a programme of renewal.
- The County Council will continue to apply a schedule of re-tensioning on a 2-year cyclical basis and undertake restorative repairs where accidents compromise the function of the restraint.

## Road Markings

- The County Council will continue to improve the inventory of our carriageway markings and condition.
- Our safety inspections are now recording observations about condition and the County Council expect that these measures, coupled with the development of a risk-based approach, will allow us to improve the condition of those markings that support network safety.
- Safety critical and regulatory markings will be given priority

## Traffic Signs (illuminated)

- The County Council will establish clear criteria for responding to sign damage using a risk-based approach and clarify the timescale for repairing or decommissioning low-risk signs.
- Priority will be given to safety critical and regulatory signing.
- With the exception of those damaged signs that the County Council determine require a quick response, all other sign damage will be dealt with on a risk based approach.
- We will establish criteria for undertaking decluttering of redundant signs in parallel with scheduled sign maintenance.

## Traffic Signs (non-illuminated)

- The approach will be as for illuminated signs, plus we will update our inventory data for this asset group to help us manage decluttering and maintenance.

## Street Furniture

(e.g. guardrails, bollards)

- Over the years there has been an increasing proliferation of this type of feature throughout the network, often installed without a clear strategy.
- We have no inventory data about these assets and we do not currently capture maintenance costs.
- We will consider collecting this data and adding it to our HMS system on an estimated basis, rather than developing an item by item record.

- These items will be reviewed using a case by case risk-based approach leading to a register of locations where renewal is not required and making provision for subsequent decommissioning of the asset.
- The County Council will establish criteria for undertaking decluttering of redundant street furniture in parallel with scheduled street furniture maintenance.

## Trees

(maintained by LCC and within the adopted highway)

- Trees contribute significantly to the quality of the highway corridor. In particular, they provide environmental, aesthetic, functional and economic benefits to the highway network and its users.
- Trees in the highway corridor have made a significant contribution to the Leicestershire landscape since the post war period.
- As such the County Council's highway trees should be considered as a valuable asset.
- Trees are large, dynamic living organisms which can be affected by a number of environmental factors and human activities.
- They can potentially become hazardous if they are not inspected and managed appropriately.
- Trees within the highway are managed in accordance with the County Council's Tree Management Strategy which balances the value of the tree asset against the potential risk they present to road users.
- The County Council will develop and action plan to address the emerging risks of Ash Die back disease

## Environmental

(e.g. grass verges, hedges, grip-cutting, flower and shrub beds)

- Whilst maintenance of these assets contributes very little to the serviceability or sustainability of the network, the quality of life and biodiversity aspects are very important, as well as recognised health and well-being benefits and therefore need to be considered.
- Stakeholders acknowledge that these are not key assets, but nonetheless expect that they are maintained to a high standard.
- We will seek to reduce our commitments in these areas by involving communities and particularly Parish Councils more directly in the upkeep of their local highways.
- This approach will only be progressed when it can be demonstrated to be at least cost-neutral to the council.

## Winter Treatment

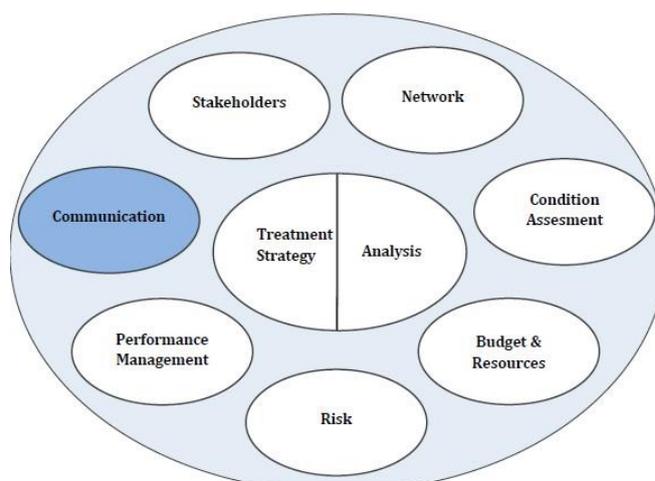
- The County Council currently treat with salt (that is treated) approximately 45% of the carriageway network on a precautionary basis in advance of any forecast ice or snow.
- Footways are only treated when there is prolonged snow or ice.
- This service is very highly valued by stakeholders.
- The County Council will annually review the winter service plans and network to ensure it is appropriate and meets statutory requirements.

*Table 11.1 Outline Strategy/Service Levels for Each Asset Group*

- 11.6. The County Council will develop and update a five year schedule of works to allow our strategy to be monitored and understood and to reflect the outcomes of lifecycle modelling.
- 11.7. The County Council currently hold a database of potential major maintenance schemes and draw priorities from this list 18 months ahead of delivery. We are in the process of adapting this to provide a risk-based and fully costed list of scheduled works for all key assets. Life-cycle modelling will confirm the broad strategy within which scheme schedules are developed.

## 12. Communication

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



- 12.2. The County Council will include an Asset Management Communication Plan in the HIAMP which will describe how and what we will communicate with staff, stakeholders, members, other agencies, the media etc.

## 13. Alignment with the Network Management Plan

- 13.1. The Highway Asset Management Strategy and the supporting HIAMP detail the approach that the authority will take to managing and maintaining the fabric of the network.
- 13.2. They are developed and operated in conjunction with the Network Management Plan which details the County Council's approach to managing the operation of the network to ensure the expeditious movement of all traffic. In particular, we will use common network hierarchies to ensure that the Highway Infrastructure Asset Management Plan (HIAMP) and the Network Management Plan apply a consistent approach to prioritisation and the consideration of risk and resilience.

## 14. Strategy Review

- 14.1. This Strategy is aligned to our Highway Asset Management Policy and any changes in either document should be reflected across both.
  - 14.2. This strategy will be continuously reviewed and may be updated at any time. It will be fully reviewed at least every three years or earlier if there are significant changes in national policy or guidance that affects asset management.
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