

Cambridgeshire County Council

Strategy for Highway Asset Management

1. Introduction

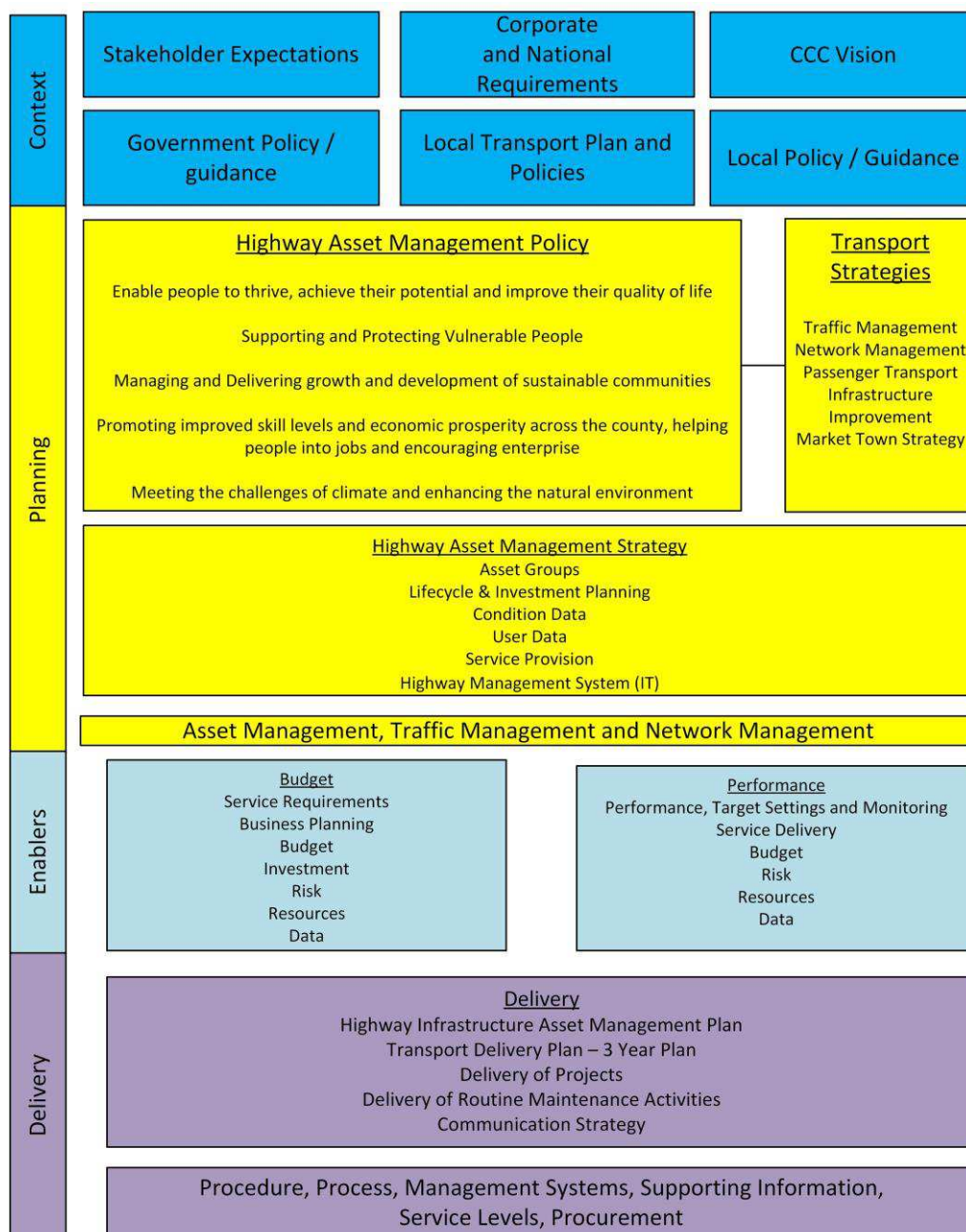
- 1.1 Cambridgeshire County Council recognises the importance of its highway infrastructure and how an effectively maintained and managed network contributes to the achievement of its corporate goals. It understands that effective Asset Management is a platform to deliver clarity around standards and levels of service, and to make best use of its available resources.
- 1.2 The Highway Asset Management Strategy sets out how the County Council will best manage the Highway Network taking into consideration customer needs, local priorities, asset condition and best use of available resources.
- 1.3 This document presents the Council's Strategy for the management of the Council's highway assets as at February 2017 and allows planning for the longer term.
- 1.4 It has been produced following the assessment of customer needs, local priorities and asset condition. It also ensures that both short and long term needs are appropriately considered, whilst delivering a minimum whole life cost approach to our highway assets.
- 1.5 The Strategy will be used to inform the highway maintenance schemes that are to be implemented within the Council's Transport Delivery Plan. Whilst selection of these schemes will be driven predominantly by condition data, challenge from local members is vital to ensure that local priorities are incorporated into delivery plans.
- 1.6 This Strategy covers all highway maintenance activities funded by revenue and capital streams. The Strategy does not directly relate to capital improvements but where linkages exist these are identified.
- 1.7 The Highway Asset Management Strategy will be used to inform priorities in the Business Planning Process and will support the continuous improvement of highway asset management.

2. Asset Management Policy and Framework

- 2.1 The Highway Asset Management Strategy sets out how the Asset Management Policy will be achieved. The Policy is a high level document that confirms the County Council's commitment to Highway Asset Management and demonstrates how an Asset Management approach aligns with the Authority's corporate vision and strategic/LTP objectives.

- 2.2 The Highway Asset Management Strategy is one of the key strategic documents relating to the County Council's Highway Services. The Asset Management Framework below encompasses these key documents and illustrates the local and national influences and dependencies that are in place to deliver these services.

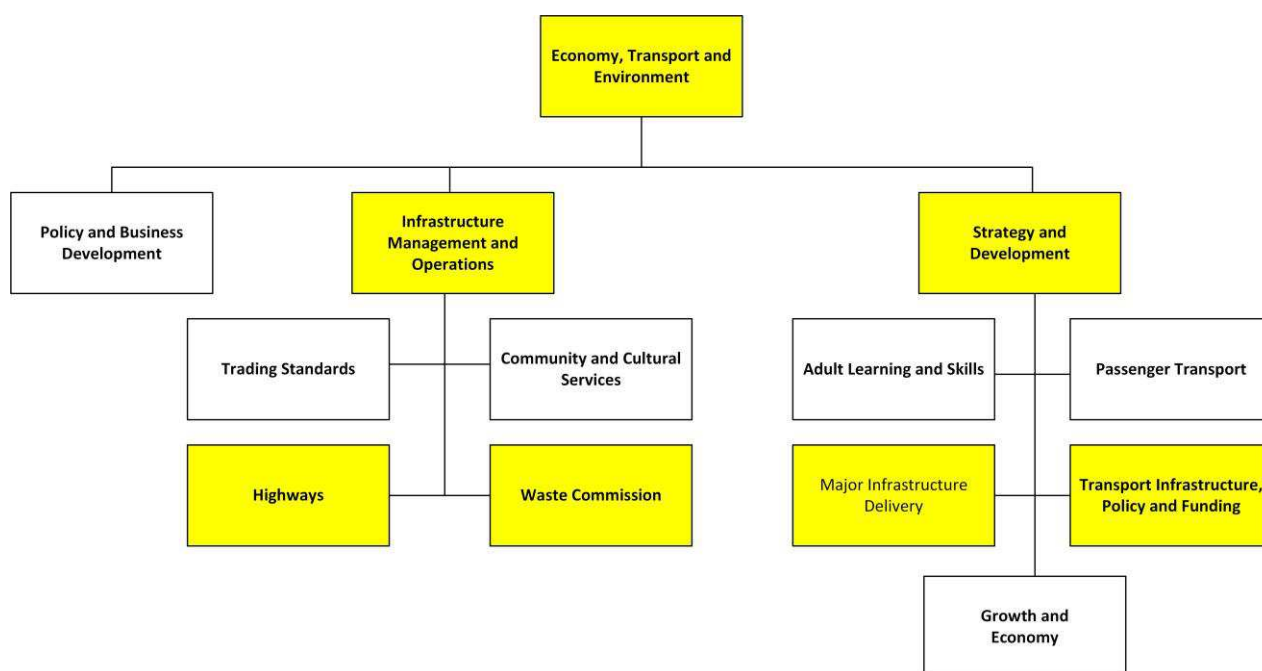
Fig 1 – Cambridgeshire CC's Highway Asset Management Framework



- 2.3 A key element of the Asset Management Framework is the Council's Highway Infrastructure Asset Management Plan. This Plan will contain approved policies and guidance, service standards and interventions, having regard to the Council's statutory duties.

- 2.4 This document reflects the guidance provided by the national Highways Maintenance Efficiency Programme, (HMEP) *document 'Highway Infrastructure Asset Management'* and the 2005 National Code of Practice *'Well-maintained Highways'*.
- 2.5 A new Code of Practice "Well-Managed Highway Infrastructure" was published in October 2016. This supersedes the previous Code. The new Code contains fewer prescriptive standards and promotes a more risk based approach. It provides a period of up to two years to make the transition to the new approach. Many of the standards in the HIAMP reflect the 2005 Code of Practice. Where moves have been made towards a more risk based approach, these are identified within the HIAMP.
- 2.5 The organisational structure of the Council's Economy, Transport and Environment (ETE) directorate delivers highway maintenance services through a number of key Service teams.

Fig 2 – ETE Organisational Structure



- 2.6 The Highways Service comprises:
- Highways Maintenance
 - Highways Projects and Road Safety
 - Traffic Manager
 - Finance and Business Support
 - Highways Commissioning
 - Eastern Highways Alliance Management
 - Asset Management
- 2.7 Highways Maintenance is the 'front door' to the highways service, handling routine maintenance, responding to customers / members, ordering works and services

from the Council's Highway Services Contract partners. This service is predominantly delivered from four geographic locations - (Fenland, East Cambridgeshire, Huntingdonshire and South Cambridgeshire & Cambridge City).

- 2.8 The Highways Projects Team implements improvements to the county's highways, including those prioritised via the Local Transport Plan (LTP) and the Local Highway Improvement Initiative. The work of the Road Safety Team includes the identification of schemes to improve road safety and undertaking safety audits of new works.
- 2.9 The Traffic Management Team plays a key role in ensuring the co-ordination of works on the county's roads, including the implementation of the Authority's permitting scheme.
- 2.10 The Highways Commissioning Team manages the major contracts under which highways services are delivered. These include the contracts for highway services and the street lighting PFI contract.
- 2.11 The Asset Management Team is responsible for highways asset management policies and strategies and their implementation. There are 3 teams within this group:
 - Asset Planning: This team develops and manages this Strategy, the Asset Management Policy and the Highway Infrastructure Asset Management Plan (HIAMP). The team is responsible for the implementation of these policies, including the development of the Council's Transport Delivery Plan (TDP). The TDP is a co-ordinated 3 year programme of all the capital schemes promoted by the Authority.
 - Asset Systems: This team manages and supports the systems that are key to implementing the asset management approach. These systems include Insight, which is the Authority's primary highway asset management system.
 - Asset Information: This team maintains all the statutory records and registers of highway assets. The team responds to searches relating to these records, including a number of statutory functions.
- 2.12 The Eastern Highways Alliance (EHA) is a collaboration of 11 Highway Authorities within the East of England. The management of the Alliance is currently hosted within the County Council's Highways Service. The EHA framework contract is a delivery mechanism for a number of the county's highways maintenance and improvement schemes.
- 2.13 Major capital maintenance schemes are delivered through the Major Infrastructure Delivery Service, with wider transport strategies, plans and funding streams being managed within the Transport and Infrastructure Policy and Funding Service.

3. User Preferences

- 3.1 Cambridgeshire's road network is a key contributor to the local economy and facilitator of growth. Maintenance of the county's highways is of paramount importance. This is reflected in customer contact data which is dominated by queries and requests for maintenance relating to carriageways.
- 3.2 Recent results for the county, from the National Highways and Transportation (NHT) customer survey, show that the condition and safety of roads are the criteria that are "most important to users" and the criterion with which users are least satisfied is the condition of roads. The data shows that of all the aspects of the highways service, the area in which customers would least like to see a reduction in the level of service is the maintenance of roads.
- 3.3 The Strategy for each asset group has been derived from an options appraisal. The preferred strategic options support the key messages from user data and the priorities identified via stakeholder engagement.

The preferred strategic options are:

- Recognise the importance of all carriageway assets
- To adopt a preventative maintenance approach, seeking to arrest the deterioration of key assets
- Geographical considerations on funding disaggregation (i.e. more emphasis on footways/cycle ways in south, more emphasis on carriageways in north)
- Footways, Structures and Traffic signals programmes to be rationalised and focused around priority assets

4.0 Strategy for Main Asset Groups

- 4.1 The user preferences are supported by current network intelligence which gives clear direction for a Strategy that prioritises the condition of carriageways. This has been acknowledged in creating this Strategy for each asset as outlined below.

4.2 Carriageways

Carriageways (roads) are the asset group in greatest need of attention and the desired outcome of this Strategy is to arrest the deterioration of this key asset. The Strategy targets increased investment in roads, to arrest the progressive deterioration that was occurring prior to 2011/12.

- 4.2.1 **Desired Outcome:** to deliver a sustainable improvement in overall condition.

- *Priority Investment:* a preventative strategy will be adopted, as this will deliver the best value for money.
- Investment will recognise the higher levels of deterioration and higher cost of maintenance of Fen roads in the north of the county, as well as other areas where poor underlying subsoils are present.

- Investment will recognise the differences in condition between various road hierarchies
- Investment in drainage maintenance and improvements will continue.
- Investment in safety fence maintenance and upgrades will continue.

4.2.2 Preventative Approach - A preventative approach will be adopted. This means investing a greater proportion of the available budget to treat roads in the early stages of deterioration. A preventative approach targets assets that are not currently in need of full structural renewal and serves to extend the assets whole life by arresting/delaying deterioration. A reactive approach, focusing on assets at the end of their life and involving carrying out more costly treatments is not sustainable. This Strategy is the roads equivalent of painting wooden window frames rather than waiting for them to rot and need expensive replacement. Failure to adopt the preventative approach would ultimately lead to an unsustainable backlog of roads requiring expensive treatments, whilst also requiring significant ongoing revenue expenditure to keep them safe, pending permanent repairs.

4.2.3 It is recognised that the transition to a preventative Strategy may lead to a short term position in which the perceived network condition is worse.

4.2.4 Predicted Condition - The condition profiles assume that a small element of revenue funded works contribute to the overall condition e.g. where significant areas of patching are undertaken.

4.2.5 Reactive and Routine Repair Costs – An ongoing review of reactive repair standards forms part of this Strategy. The review will examine investigatory and intervention levels and will determine how more cost effective ways of delivering an acceptable standard of repair to safety defects and other minor defects can be achieved.

4.2.6 The Strategy is designed to allow better management of customer expectations. By providing specified target standards, by improving planning of works and providing a more consistent condition, it is expected that users will have greater clarity of what can be expected. Improved communication with customers using this information should improve customer perception and satisfaction.

4.2.7 Summary

- **Arresting the deterioration of carriageways**
- Predicted decrease in quantities of minor defects (pot holes and the like) in the longer term
- Increasing customer satisfaction as a result of decreasing reactive repairs and more stable condition

4.2.9 Fen Roads - The condition of Fen roads is particularly difficult to predict as they can be significantly affected by weather conditions. Fenland areas have soils which are susceptible to cyclic shrinkage and swelling. This is exacerbated in periods of unusually high or low rainfall and this movement can cause cracking and subsidence along roads in affected areas. This Strategy takes this into

account and advocates funding disaggregation to reflect the impact of Cambridgeshire's underlying geology.

4.3 Footways

4.3.1 Condition surveys of the county's footways have been undertaken recently and the assumptions in this Strategy are based upon the data collected. The priority is to address the condition of the higher use footways.

4.3.2 **Desired outcome:** to improve condition of high use footways (referred to as Cat 1 and 1a) and to arrest the deterioration of other footways

- *Priority Investment:* the investment required to improve the condition of heavily used footways
- Footway investment on the remaining footways shall be based upon **arresting their deterioration**
- A preventative Strategy will be adopted using surface treatments where appropriate

4.3.3 High use footways represent 2% of the Council's footway network, making it possible to create a significant change in their condition for relatively small investment.

4.3.4 By targeting investment in Cat 1 and 1a footways over a 3 year period an improvement in the condition of high use footways will be possible.

4.3.6 **Prevention** - A large proportion of the County's footways are bituminous. A regime of preventative treatments such as slurry sealing offers the opportunity to deliver improved condition at a lower cost. A programme of preventative treatment will form part of this Strategy and will be incorporated into future Transport Delivery Plans.

4.4 Highway Structures (bridges)

4.4.1 **Desired outcome:** to maintain safe structures whilst making steady progress in addressing structures where strengthening is desirable, utilising bridge condition and location as determinant factors.

- *Priority investment:* in statutory duties and a small number of priority structures
- Strengthening programme; strengthening of structures will be undertaken progressively using a prioritisation of those structures where strengthening provides the greatest benefit to users
- Maintain the safety of the structures stock

4.4.2 **Statutory Duties** - The Council will continue to meet its statutory duties as the owner of highway structures, via a regime of inspections and management of abnormal loads and bridge use.

- 4.4.3 **Bridge Strengthening Programme** - There are currently a number of structures that fail to meet full load carrying capacity. A list of schemes has been identified where strengthening work is desirable. The remaining structures will be managed utilising a regime of inspection/monitoring.

Priority will be given to structures which require attention to prevent them from becoming hazardous to users, or those that require works to prevent higher future repair costs from being incurred.

Other structures which might require strengthening will be managed by monitoring, inspection and repairs as required.

4.5 Traffic Signals

- 4.5.1 A number of traffic signal installations that have reached the end of their life have been identified. These form the basis of the traffic signals Strategy.

- 4.5.2 **Desired outcome:** to retain a reliable, safe traffic signals asset

- 4.5.3 **Refurbishment Programme** – This will be driven by the age of the infrastructure and take into account potential obsolescence of equipment and deterioration of condition/reliability.

- 4.5.4 **Reliability** - The reliability of the traffic signal stock will be maintained via a regime of inspections and reactive repair.

4.6 Street Lighting

The County Council's Street Lighting management and maintenance is delivered through an existing long term PFI contract which runs through to 2036. It is therefore excluded from this Strategy.

4.7 Drainage schemes

The Strategy continues to provide annual investment in drainage improvements, recognising that positive drainage systems will help prolong the lives of roads. This investment will provide a mechanism to manage flooding issues and develop solutions and will be funded from within the capital carriageway allocation.

4.8 Capital Improvement and Road Safety Schemes

- 4.8.1 The Strategy supports the need to focus on improving road safety and encouraging growth through delivering appropriate improvement schemes. Whilst the Strategy does not directly cover these activities, it is intended to facilitate a joined up approach to the delivery of improvement and maintenance schemes. There is also an on-going requirement to understand the future maintenance implications of new capital schemes.

- 4.8.2 The Asset Management Strategy and resultant long term delivery plans, will allow a more coordinated approach to the provision of capital improvement and highway maintenance schemes. This will ensure that maximum value is achieved from various capital and revenue investments through the lifecycle of new and existing assets.

4.9 Sudden Asset Failures

Whilst the Strategy advocates a planned and risk based approach to Asset Management, there may be exceptional circumstances in which a particular asset fails rapidly and unpredictably. In this event, planned activities will be reprioritised (using the principles contained within this Strategy) across all asset groups in order to facilitate the inclusion of additional schemes within the programme.

5.0 Planning Considerations

The Council appreciates the importance of growth and development to the future of the local area and economy. However, there is a need to ensure that any new development / change of use promoted through the planning process fully considers the impact on the existing highway network and its future maintenance.

6.0 Data Management and Information Systems

- 6.1 The County Council's Highway Asset Management Strategy and Plans are supported by robust and reliable data.
- 6.2 The following systems are currently in operation by the Authority to manage its highway data
- Symology Insight Highway Management System
 - WDM Pavement Management System
 - GIS (MapInfo)

7.0 Good Practice

- 7.1 Cambridgeshire County Council is committed to developing and implementing best practice and will make best use of the following forums where appropriate:
- Highway Maintenance Efficiency Programme (HMEP)
 - The Chartered Institute of Public Finance and Accountancy (CIPFA) Highways Asset Management Planning Network
 - Highways Asset Management Financial Information Group (HAMFIG)
 - UK Roads Board
 - Eastern Highway Alliance (EHA)
 - ADEPT Asset Management Working Group
 - National and regional conferences
 - Professional Institution engagement
 - Competency training

8.0 Review Process Monitoring and Performance Reporting

- 8.1 The Strategy will be reviewed regularly to allow informed decisions to be made to accommodate any changes in funding and priorities within the longer term forecasts.