

Highway Asset Management Strategy

1. Introduction

- 1.1. Cheshire East Council (CEC) recognises the importance of its highway infrastructure and how an effectively maintained and managed network contributes to the achievement of its corporate goals, and delivers the required outcomes for Cheshire East residents and businesses. 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. An Asset Management Policy has been developed that defines how the implementation of asset management will support CEC in delivering its corporate vision. The Highway Asset Management Strategy (HAMS) sets out how the Council will best manage the Highway Network taking into consideration customer needs, local priorities, asset condition and the best use of available resources through invest to save initiatives to realise the benefits of early intervention.
- 1.3. 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.
- 1.4. The Strategy will be used to inform the highway maintenance schemes that are to be implemented within Cheshire East's Council 3 Year Plan.
- 1.5. This strategy will be used to inform priorities in the Business Planning Process and will be used to support the continuous improvement of our highway asset management by capturing the outcomes of using the optimum treatments or interventions over the whole life cycle of the different asset groups.

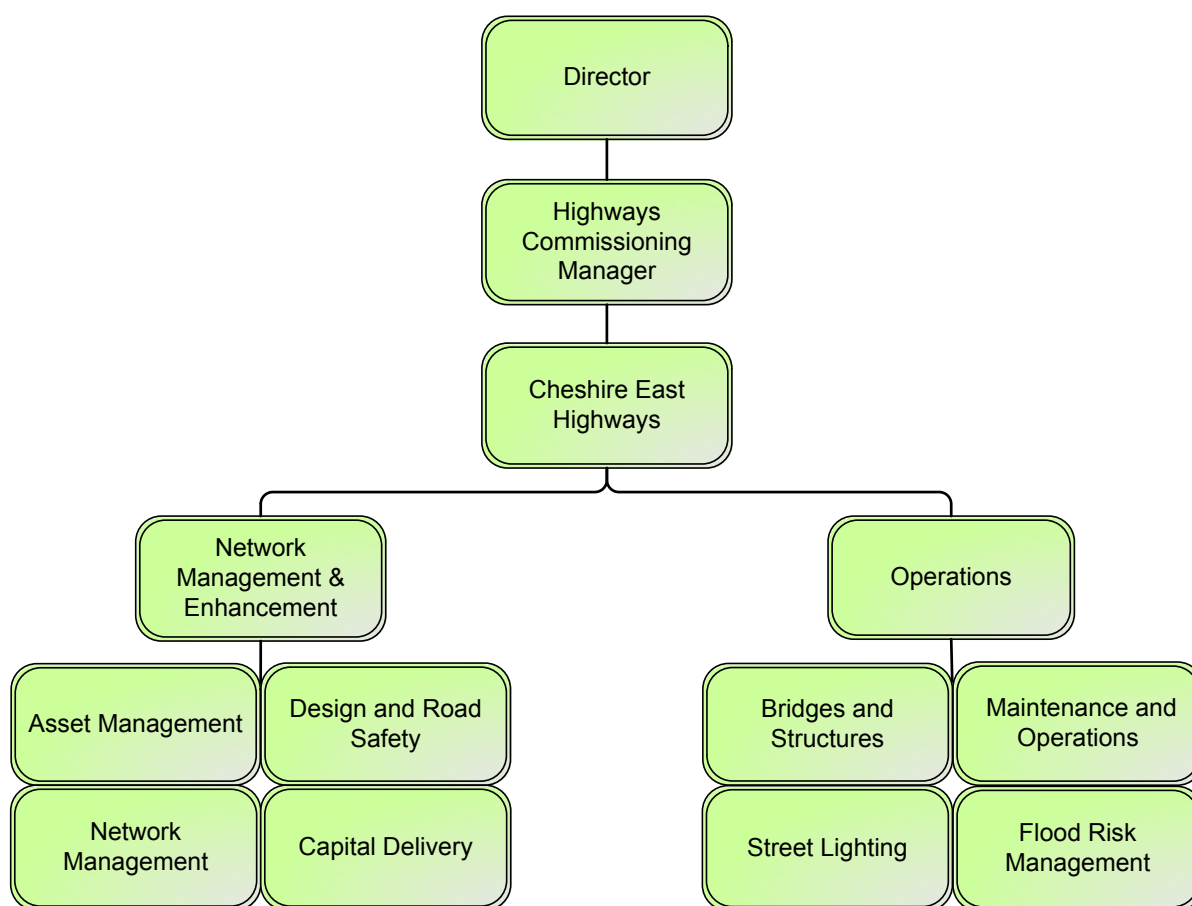
2. The Highway Asset

- 2.1. Cheshire East's highway network comprises just over 2,670 kms of carriageway. This is a mixture of rural and urban network either classified as A, B, C roads or unclassified local roads. The unclassified network represents 58% of the overall network length. The footway and cycleway network is 2,000 kms, of which just over 32 kms is shared cycleway/footway. The highway asset also includes 106 signalised junctions and 126 signal pedestrian crossings, 33,700 traffic signs of which 3,700 are lit, about 57 kms of safety fencing and approximately 40,000 street lights. In terms of structures, the Council is responsible for approximately 1,400 road bridges, foot bridges, underpasses, subways, culverts, and retaining walls. The highway asset also includes drainage, street furniture, road markings and soft estate.
- 2.2. The Council has calculated the asset value in accordance with the requirements for Whole of Government Accounts. In July 2015 the gross replacement cost was estimated to be £4.97 billion, and the depreciated replacement cost was £4.36 billion.
- 2.3. The Council, as the Highway Authority, has a statutory duty to maintain the highway network in a condition to enable the safe passage of the travelling public. The borough's highway network comprises many diverse assets; this strategy describes how the principles of asset management are applied to all highway infrastructure assets that are the responsibility of the Council.

3. Managing the Highway Asset

- 3.1 This HAMS sits within the wider Highway Asset Management Framework and is one of the key strategic documents related to the delivery of the Council's highways services.
- 3.2 Encompassed within the framework are a number of key documents including the Council's Highway Asset Management Policy and the Local Transport Plan. These documents reflect the guidance laid down in the suite of national Codes, in particular the following Codes of Practice:
- Well-maintained Highways;
 - Well Lit Highways; and
 - Management of Highway Structures.
- 3.3 In addition, the Department for Transport has worked with the highways sector to develop the Highway Maintenance Efficiency Programme (HMEP) which allows local highway authorities to connect and share their practices of 'what works' across the sector that will allow Cheshire East Council to achieve greater efficiency in maintaining its highway infrastructure assets in the future.
- 3.4 The Council has established an organisational structure (Figure 1) that reflects the importance that asset management plays in the delivery of its highways and transport services. This structure enables the development, continual review and embedment of strategic documents and promotes asset management practices.

Figure 1: Organisational Structure



- 3.5 This Asset Management Strategy describes the initiatives and processes that enable the implementation of asset management. It also makes reference to the enablers, both tools and information, necessary for delivering the highway service effectively and efficiently.
- 3.6 One of the Highway Service priorities for 2013 to 2018 has been the “Highway Investment Programme” which aimed to improve Cheshire East’s roads by developing a five year capital investment programme which began with £23m in 2013 and a further £16.5m from 2015.
- 3.7 Cheshire East has implemented asset management principles for a number of years. This approach is further demonstrated by the “Highway Investment Programme” which is providing additional capital funding to support the road asset and demonstrates the council’s objective to enhance the highway network, providing residents and the economy with a better place to live and do business in.

4. Asset Management

- 4.1 Asset management is defined as

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

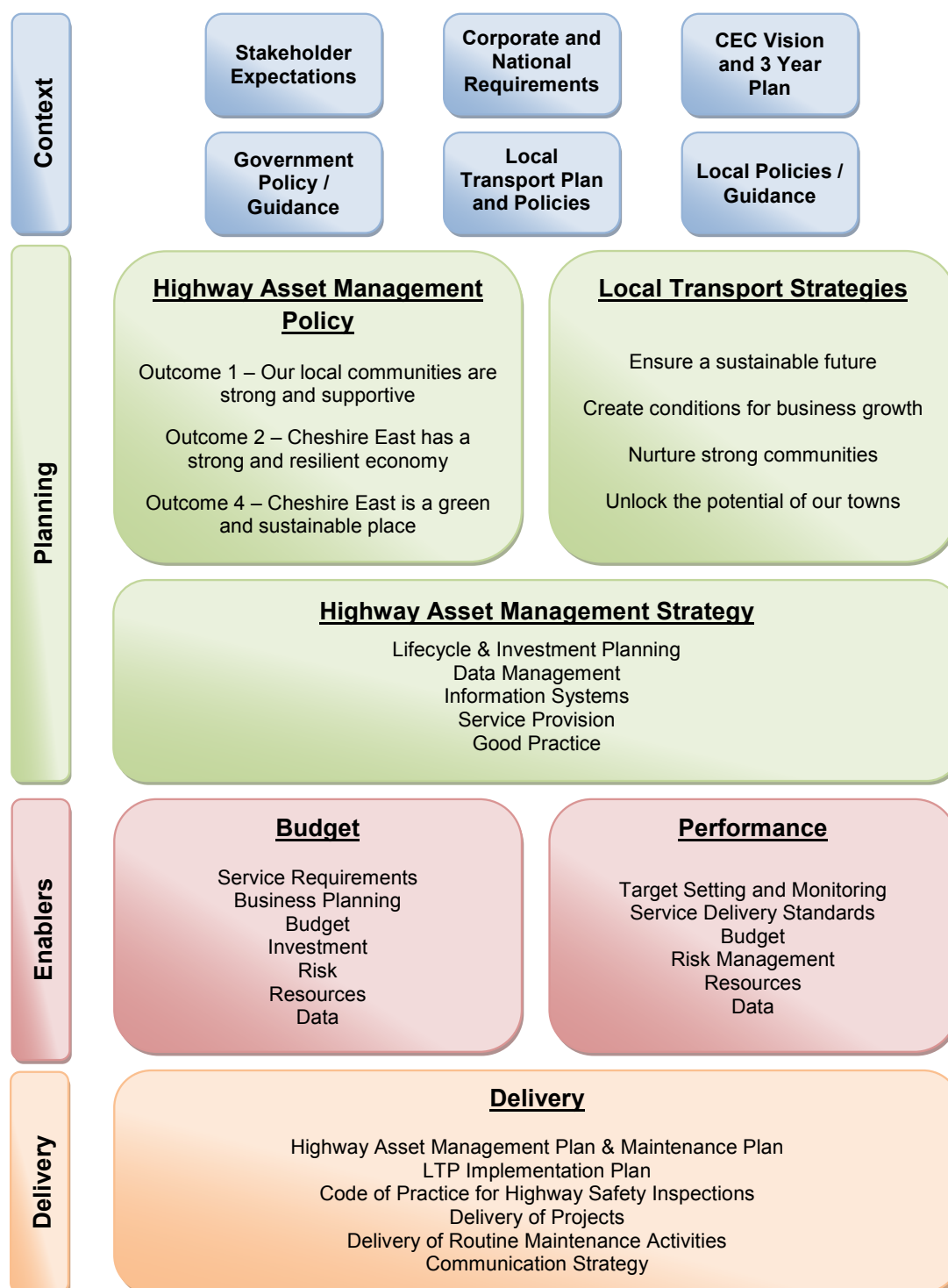
[Highway Infrastructure Asset Management Guidance – UKRLG/HMEP, May 2013]

- 4.2 This definition puts emphasis on the systematic approach that asset management plays in managing the strategic needs of highway assets within an organisation and highlights the need for optimal allocation of resources and long term planning.
- 4.3 The adoption and implementation of asset management principles, strategies and plans provides a means for CEC to face the challenges of managing the highway asset, through the development of a systematic approach. The aim is to deliver the most efficient and effective maintenance regime over the lifecycle of the asset, ensuring that the performance of that asset reflects the requirements of the Council.
- 4.4 In addition, the adoption of asset management is seen as a tool to enable the Council to establish appropriate budget allocations by demonstrating the effects of under-investment and the implications of not meeting safety and serviceability requirements of the customers using the network. “Highway Investment Programme” is a good example of how asset management has demonstrated the case for additional capital funding.

5. Asset Management Framework

- 5.1 This Strategy sets out how the Council's Highway Asset Management Policy will be achieved. In particular, it describes how the Service continues to work towards implementing an asset management approach to the management of the Authority's highway infrastructure and network. It provides the framework for delivering our corporate priorities through effective, informed and defensible decision making.
- 5.2 This strategy serves as a basis for the development of a detailed Highway Asset Management Plan and its implementation, including enabling the organisation, its technology and its processes to adapt to change.
- 5.3 This strategy is based on the framework shown schematically in Figure 2, and outlined in the following sections. This framework clearly identifies the relationships between asset management, the influences of corporate and national drivers and internally the Council's Local Transport Strategy and Plan.
- 5.4 The HAMS will inform priorities in the planning and delivery process and therefore support continual improvement in the management of the highway asset.

Figure 2: Asset Management Framework



- 5.5 This strategy covers all maintenance led activities including activities funded by capital and revenue streams. Decisions related to capital improvements and the transport needs of the network are not presently covered in this strategy.
- 5.6 This strategy explains how individual asset groups and components fit into the framework, describes how the asset management planning process is implemented and refers to tools currently employed, as well as links to other key documents.

- 5.7 Finally, the strategy describes how the Council will embed a continuous improvement approach to highway asset management, including how national developments and good practice are taken into consideration, as well as how the work carried out in Cheshire East can influence the regional and national asset management agenda.

6. Strategy for Individual Assets

- 6.1 As part of the highway asset management framework, and in accordance with other national guidance, the highway infrastructure assets have been divided into individual asset groups. Each group is then broken down into asset components and maintenance activities. The asset groups and components are described in the following sections.
- 6.2 A key function of the asset management process is to understand the spending needs of each asset group, component and maintenance activity against performance, aims and objectives. This means understanding funding needs to meet:
- Cheshire East Three Year Plan objectives;
 - Sustainable Community Strategy;
 - Local Plan;
 - Local Transport Plan;
 - Service Delivery and Planning; and
 - Performance Targets.
- 6.3 Inherent to this process is a need to understand the influence of budget decisions on customer satisfaction and delivery of the corporate priorities. Furthermore, the impact that investing on one asset component may have on the overall performance of other asset components, as well as the whole asset, is examined. To this end, a Needs Based Budgeting (NBB) approach has been developed and is being used.
- 6.4 In line with national guidance and good practice, Cheshire East Council is developing a lifecycle approach to managing its highway maintenance activities.
- 6.5 Understanding the individual asset's condition, how long specific maintenance treatments last, the relative cost of these treatments and the Levels of Service (LoS) provided are essential pre-requisites to good asset management. Cheshire East Council's goal is to improve residents' satisfaction with its highway services, whilst maintaining value for money and continuing to provide a safe highway network, in line with corporate priorities.
- 6.6 Cheshire East Council's NBB approach to delivering the principles of lifecycle management planning employs a risk management approach in assessing the influences across the following criteria; Legislative, Safety, Environmental, Economy and Customer.
- 6.7 This approach allows for the available budgets to be split at a strategic level based on a common set of criteria. Successful implementation of this approach relies on a good understanding of the asset, its current and future performance, expenditure and customer feedback; as well as an understanding of the various service levels that may be achieved for the different funding options.
- 6.8 This understanding can only be achieved through reliable, current and robust data. Cheshire East Council has developed a range of data and information capture systems and processes,

which prioritises its data collection needs, data management requirements and the IT infrastructure necessary to process, manage and present this information.

7. Asset Groups and Components

- 7.1 Cheshire East Council's highway infrastructure has been divided into key assets groups and components, as described in Table 1.

Table 1: Asset Groups and Components

Asset Group	Asset Component
All Classification of Roads	Carriageway, footways and cycleways,
Structures	Bridges, Retaining Walls, Culverts
Street Lighting	Street Lights, Illuminated Traffic Signs and Traffic Bollards
Surface Water Drainage	Pipes, Gullies, Chambers, Headwalls, Ditches
Traffic Signs and Street Furniture	Non-Illuminated Traffic Signs and Traffic Bollards, Street Name Plates
Traffic Signals and Information Systems	Traffic Signals, Information Signs and Control Equipment
Fences, Walls and Safety Barriers	Fences, Walls and Safety Barriers
Road Markings	Road Markings
Environment	Highway Verges, Trees, Weeds
Weather Emergencies	Depots, Pumps and Salt Storage Barn

- 7.2 This approach has been adopted to allow a clear understanding of budget allocation across the different asset components and facilitating the recording of where money is invested linked to expenditure to activities.
- 7.3 Identifying where money is invested, allows the Council to monitor performance against service delivery and the implementation of a continuous improvement process, within the constraints of available funds.
- 7.4 Dividing the highway infrastructure into component parts and identifying the relative costs and demand for planned, routine and reactive maintenance activities is seen as an essential process upon which NBB can be developed.

8. Asset Management Planning

- 8.1 The asset management strategy supports continual review and improvement of its processes and procedures, ensuring, as far as possible, that the standards identified in relevant legislation and codes of practice are adopted and that our customers receive a good and efficient service that reflects the resources available.


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graph LR; S1[Strategic Level] <--> T1[Needs Based Budgeting Tool]; T1 <--> B1[Budget Allocated to Asset group]; B1 <--> B2[Budget Allocated to Asset group]; H[Highways] --> T2[Condition Assessment Tool]; T2 --> B3[Budget Allocated by Treatment Type to Asset Components]; B3 --> P1[Prioritised Work Programme]; SL[Street Lighting, Structures, Traffic Management etc] --> T3[Scheme Prioritisation Tool]; T3 --> B4[Budget Allocated by Treatment Type to Asset Components]; B4 --> P2[Prioritised Work Programme];
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- 8.8 Where suitable data is available and where appropriate this concept will be extended to encompass other asset groups, such as Street Lighting, Structures and Traffic Management. This will allow decisions to be made that consider criteria other than condition and determine programmes that are not necessarily 'worst condition first'. Unless the asset condition would pose a risk to public safety.
- 8.9 At the Asset Component level packages of information are prepared annually, allowing teams to formulate programmes of work based on the allocations identified in the previous strategic and service level decision phases.

9. Gross Replacement Cost and Depreciated Replacement Cost

- 9.1 Whole of Government Accounts (WGA) has set requirements for the way the value of the highway asset is reported to HM Treasury in the Authority's audited accounts. When the WGA process has been fully implemented, Authorities will be required to meet the strict requirements for financial reporting of their highway asset.
- 9.2 For this to be achieved there is a clear need for accurate and detailed inventory information and performance data. This requirement will support asset management by providing an improved understanding of network deterioration and combining that with the levels of service to be achieved.
- 9.3 A strategy has been developed with the Council's Section 151 Officer to ensure asset management practices are in place to satisfy the financial reporting requirements defined in the Transport Infrastructure Assets Code, published by the Chartered Institute of Public Finance and Accountancy (CIPFA) in May 2010.
- 9.4 Cheshire East Council embraces this approach and has developed the processes for collating the data needed to meet the WGA requirements, whilst developing good asset management practices that will lead ultimately, to a refinement of the service.

10. Data Management and Information Systems

- 10.1 Cheshire East Council recognises that good and robust data is critical to implementing asset management and delivering potential benefits. However, the Authority believes that the collection, management and use of data need to be based on a process, which identifies;
- Ownership;
 - Data Requirements;
 - Responsibilities; and
 - Costs to store, manage and maintain data;
- all of which need to be clearly defined.
- 10.2 To this end, Cheshire East Council has developed a comprehensive asset information system, backed up with condition surveys and data that provide the optimum use of available information. This system covers data collection, highway infrastructure data management, reporting requirements (business information) and corporate IT needs. It is used to inform current data collection needs for both inventory and condition information.

10.3 Cheshire East Council also recognises that effective asset management and its implementation relies on systems, which can be used as tools to support decision making at all levels. The following tools are currently in use by the Authority:

- Pitney Bowes Confirm Asset Management System - covering most of highway infrastructure management needs, including works order, public enquiries, asset register, street works register and inspection regimes;
- YOTTA Horizons system – asset condition modelling :
- GIS (as the corporate asset management mapping system)

11. Maintainability

11.1 One of the aims of good asset management is to improve co-ordination between highway improvement and highway maintenance schemes. Taking into account the cost and implications of maintaining the asset at the design stage will ensure that whole life costs of schemes are optimised. The HAMS aims to raise awareness of this issue, in accordance with national guidance, by ensuring that any new infrastructure has adopted the most appropriate design option and the most appropriate materials.

11.2 Cheshire East Council has developed and is implementing a process for incorporating new works into the existing highway network. The process advocates lifecycle management values and introduces early communication between developers or clients and the Council to ensure that asset management principles have been considered and agreed as part of the scheme implementation.

11.3 This process aims to ensure that all capital and revenue investment options have been considered fully, where new works should only require maintenance in line with expected lifecycles.

12. Good Practice

12.1 Cheshire East Council is committed to the development and implementation of good practice and benefits from lessons learnt at National, Regional and Local levels. Officers from Cheshire East Council regularly contribute to and attend:

- National and regional conferences;
- The Chartered Institute of Public Finance and Accountancy (CIPFA);
- Midland Service Improvement Group Highways Asset Management Partnership Network;
- HMEP events; and
- CIPFA Highway Asset Management Updates

12.2 Furthermore, Cheshire East Council is committed to the sharing of knowledge and experiences in implementing asset management with other Highway Authorities across the country. To this end, officers from Cheshire East Council present examples of good practice nationally at workshops and conferences and are members of the following groups:

- APSE Highways, Street Lighting and Winter Maintenance group
- North West Traffic Managers Group
- Institute of Asset Management
- Highways Maintenance Efficiency Programme (HMEP)

13. Review Process

13.1 This strategy will be updated annually with minor amendments if required and fully reviewed on a six yearly basis to align with the Government's current Integrated Transport Block capital funding cycle. This process will be managed and implemented by the Highways Asset Management Team.

14. Benefits of our Asset Management Strategy

14.1 The benefits of implementing the HAMS are summarised below:

- Encourages engagement with other stakeholders, including Elected Members, Senior Officers and the public;
- Readiness to respond to changes resulting from climate change, weather emergencies, contractors, resilience and finance;
- Close working and integration of efforts with other parts of the Council, including Corporate aims and objectives;
- Improved delivery within budget constraints – including procurement;
- Efficiencies and Collaboration – better ways of doing things, or improved service, enhancing performance in a challenging environment;
- Improved understanding of customer aspirations and expectations;
- Aids our understanding of what we do by identifying, explaining and providing outcomes to key stakeholders; and
- To influence and focus on the better use of resources.