

Cheshire East Highway Infrastructure Asset Management Plan

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Version Control

Version	Purpose/Change	Date
1.0	Final	December 2022

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Executive Summary

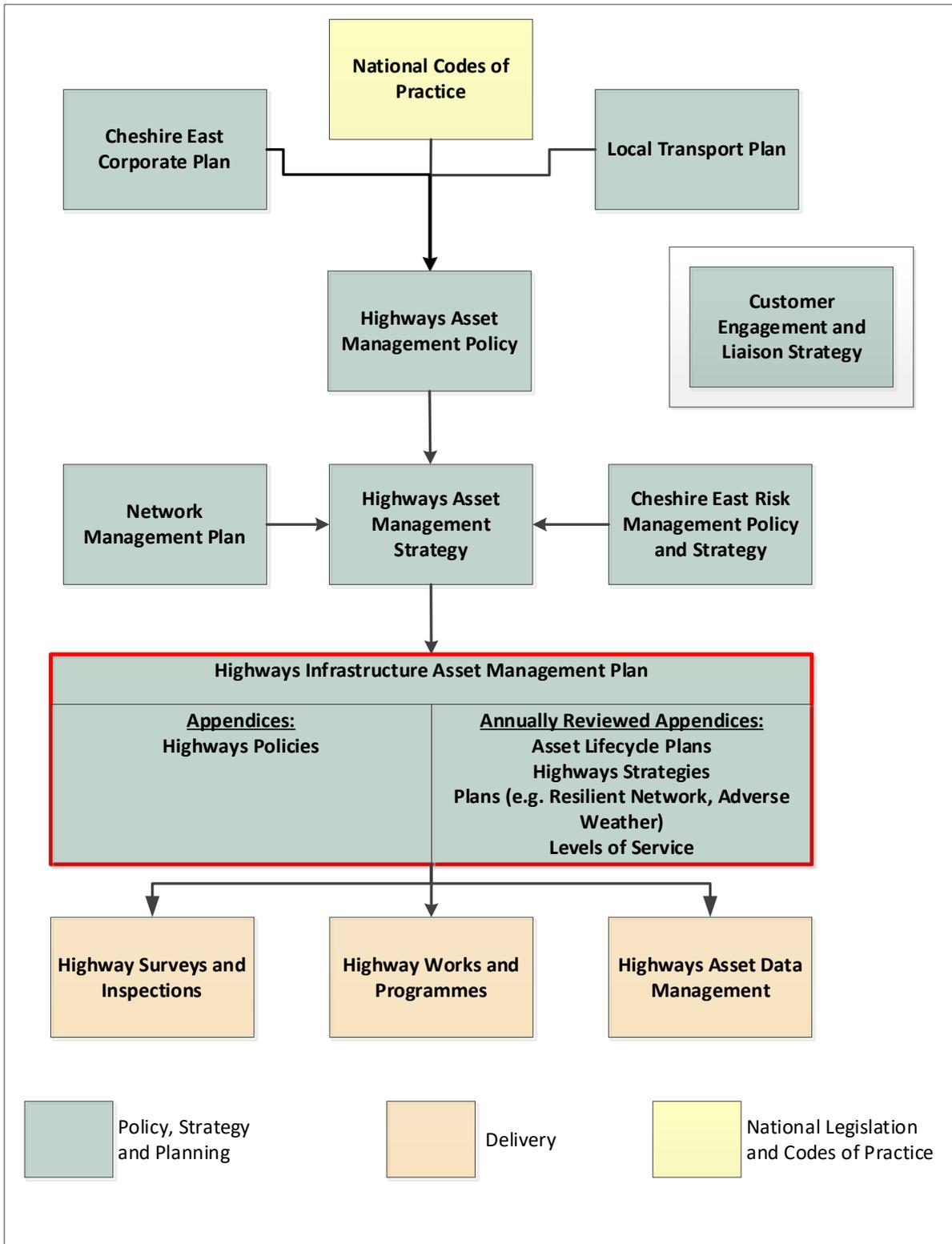
In May 2013, the UK Roads Liaison Group (UKRLG) published the Highway Infrastructure Asset Management Guidance Document. This set out the below 14 recommendations that all local Highway Authorities should employ to demonstrate they are following Asset Management principles in all aspects of highway maintenance management.

Highway Infrastructure Asset Management Framework	Leadership and Commitment
Communications	Making the Case for Asset Management
Asset Management Policy and Strategy	Competencies and Training
Performance Management Framework	Risk Management
Asset Data Management	Asset Management Systems
Lifecycle Plans	Performance Monitoring
Works Programming	Benchmarking

The development of Cheshire East's Highways Infrastructure Asset Management Plan (HIAMP) links directly to the Highway Infrastructure Asset Management Guidance Documents 14 recommendations and provides the basis for the Council to adopt a risk-based approach founded on sound asset management principles which guides the maintenance and management of the highway asset. This enables economic prosperity and growth of the wider community. The HIAMP helps to form critical links through the highway sector and industry enabling collaborative working which in turn delivers better value for money.

The Highway Infrastructure Asset Management Plan also reflects the approach outlined in the Code of Practice 'Well-managed Highway Infrastructure'. This Code of Practice serves as a guidance document to Local Authorities, encouraging them to implement a risk-based approach to the delivery of their services.

The HIAMP forms part of a suite of documents which define Cheshire East's Asset Management approach. The links to other documents are set out in the diagram below:



The HIAMP remains a live document and will be subject to on-going review and development, as new national and local policies, strategies and priorities emerge.

1. Introduction

Our highway network is the largest and most visible publicly owned asset. With over 2,700km of carriageways, 2,000km of footways and over 40,000 streetlights, it is used daily by the majority of the travelling public for commuting, business, social and leisure activities. It is fundamental to the economic, social, and environmental wellbeing of local communities and to the prosperity of the nation.

At a local level, the highway network helps to shape the character and quality of local areas and makes an important contribution to wider local authority priorities, including regeneration, social inclusion, community safety, education, and health. As with any asset, its condition will deteriorate over time. It is critical that the Council continually invest in maintenance of the highway network. With years of limited funding nationally, there has never been a more significant time to ensure asset lifecycle management is embedded as normal practice. Cheshire East Council have adopted and applied asset management principles since 2011 and continue to make the best use of the available resources to ensure optimum investment results for its stakeholders.



Image: Cheshire East Borough

1.1 Background - Funding

‘The case for implementing the Asset Management Framework should be made clearly explaining the funding required and the wider benefits to be achieved’

The case for Asset Management – Recommendation 9
UK Roads Liaison Group Guidance

Managing and maintaining a large and complex network requires an effective asset management framework to provide a focus for funding and achieving the wider benefits. The demand for an efficient approach to the management of highway infrastructure assets has come to prominence in the light of economic challenges faced by both central and local government. Several developments designed to streamline the management of these assets include:

Department for Transport (DfT) Local Highways Maintenance Incentive Fund

The Local Highways Maintenance Incentive Fund which is set by central government is designed to enable authorities to assess their progress on the journey to the implementation of best practice, creating an environment for effective and efficient delivery and enabling capital funding to maximise its return.

UKRLG–Summary of Recommendations

The UK Roads Liaison Group produced the Highway Infrastructure Asset Management Guidance Document in 2013 which laid out 14 recommendations which are presented as the minimum requirements to achieve a reasonable level of benefit from asset management.

Well-Managed Highway Infrastructure Code of Practice 2016

The Code of Practice provides highways authorities with guidance on highways management and signposts the implementation of a risk-based approach.

ISO 55001:2014 – Asset Management

This internationally recognised standard sets out a framework which enables the organisation to achieve its objectives through effective and efficient management of its assets consistently and sustainably over time.

1.2 Capital and Revenue Funding

Investment and maintenance of the highway is funded through both revenue and capital resources.

Capital funding is that which is used to add to the highway asset or significantly increase its remaining life, such as highway structural maintenance schemes. **Revenue funding** is used for the day-to-day recurring activities required to maintain the highway network such as pothole repair, grass cutting and gully emptying.

Each year the Department for Transport provide capital funding for highways and transportation to local authorities in the form of annual Integrated Transport and Maintenance Block Grants. The Maintenance Block Grant is essential for maintenance and minor works programmes for all highway assets.

The Local Highways Maintenance Incentive fund focuses on questions set by central government that are designed to enable authorities to assess their progress on the journey to the implementation of good practice. The Incentive Fund aims to create an environment for effective and efficient delivery of highway maintenance works to enable capital funding to maximise its return.

The self-assessment bands are based on an authority's maturity across five key areas of highway management:

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

The five main areas of highways management are asset management, resilience, customer, benchmarking and efficiency and operational delivery.

The incentive funding awarded to each authority will be based upon their score in this questionnaire; and will be relative to the amount received through the needs-based funding formula. The Incentive Fund places the need for robust asset management at the heart of its methodology. Cheshire East submits the self-assessment questionnaire to the Department for Transport annually.

Other funding streams are available from time to time, such as the Local Highways Maintenance Challenge Fund which enables local highway authorities in England to bid for major maintenance projects that are otherwise difficult to fund through the usual formulaic funding allocations they receive from government.

1.3 Purpose of our Highway Infrastructure Asset Management Plan

This HIAMP ensures the efficient and effective management of the highway asset to meet and achieve the objectives set out by the Council. It follows a clear line of sight from the local and national policies that shape the future direction of the Council.

Strong leadership influences the culture and behaviour of all organisations. The Council has clear direction and commitment to its priorities to ensure that a consistent approach to delivering asset management is achieved.

Communication with customers senior decision makers and elected members is vital in supporting a steady approach to improving highway maintenance, ensuring best use of funding, and demonstrating the need for investment. Regular committees, updates, monthly newsletters, website pages and members events are scheduled throughout the year to reinforce the case for asset management.

Delivery of highway maintenance is largely based on statutory powers and duties contained in legislation and precedents in case law. Highway authorities have a general duty of care to users and the community to maintain the highway in a condition which is fit for purpose, in so far as is reasonably practicable.

Cheshire East has produced this HIAMP to:

- Fulfil the objectives set out in the Asset Management Policy and Strategy.
- Outline our statutory obligations and stakeholder needs in relation to the overall performance of the highway network,
- Outline the implementation of asset management principles to effectively manage the highway network in-line with available budgets,
- Encompass the Council's long-term goals and objectives into the management of the highway network including carbon reduction targets,
- To form a framework to guide the development and evolution of highway policies, strategies, performance measures and priorities

2. Legal Framework

The delivery of highway maintenance is largely based on statutory powers and duties contained in legislation and precedents in case law. Highway authorities have a general duty of care to maintain the highway in a condition which is fit for purpose, in so far as is reasonably practicable.

The most significant legislation applicable to highways is:

Highways Act 1980

The Highways Act 1980 sets out the main duties of Authorities in England and Wales. Section 41 imposes a duty to maintain highways maintainable at public expense. The Act identifies all powers that Highway Authorities can exercise to undertake activities on or within the highway such as improvements, drainage, acquiring land etc.

Authorities have a general duty of care to users and the community to maintain the highway in a condition fit for its purpose. This principle should be applied to all decisions affecting policy, priority, programming, and implementation of highway maintenance works.

Traffic Management Act 2004

The Traffic Management Act 2004 places a network management duty on a highway authority that includes co-ordination of all works within the highway. It also introduces duties associated with reducing congestion, requires the appointment of a Traffic Manager and close liaison with neighbouring authorities.

New Roads and Street Works Act 1991

Imposes duties upon the Council to co-ordinate, monitor and inspect the works of 3rd parties within the highway.

Management of the highway asset is also influenced by:

- Transport Act 2000
- Road Traffic Regulation Act 1984
- Traffic Signs Regulations & General Directions 2002
- Railways and Transport Safety Act 2003
- Local Authorities (Transport Charges) Regulations 1998
- Countryside and Rights of Way Act 2000 21
- Environmental Protection Act 1990
- Noxious Weeds Act 1993
- Health and Safety at Work Act 1974
- Management of Health and Safety at Work Regulations 1999
- Construction (Design & Management) Regulations 2015
- Local Government Act 2003
- The Clean Neighbourhoods and Environment Act 2005
- Disability Discrimination Act 2005
- Equalities Act 2010
- Environment Act 2021
- The Permit Scheme (WASP)

2.1 Supporting the Local Transport Plan

The Local Transport Plan (LTP) is a legal requirement through the Transport Act 2000 and defines the long-term vision for Cheshire East's transport system as:

'Cheshire East's transport network will enable growth through improved connectivity, a better quality of life and enhanced quality of place'

Following a period of consultation, the new Local Transport Plan 2019-2024 (LTP) was adopted in October 2019. The new plan considers all forms of transport over the next 5 years. It is a framework for how transport will support wider policies to improve our economy, protect our environment and make attractive places to live, work and play. The LTP outlines the role transport will play in supporting the long-term goals of Cheshire East.

The below identifies what transport success against each of the corporate outcomes will look like for Cheshire East:

- Maintaining and improving the condition of the area network
- Delivering value for money
- Improving customer satisfaction

3. Communications

In March 2021, Cabinet approved the Council's first "Customer Experience Strategy". The Strategy sets out our vision to put customers at the heart of everything we do and supports the visions contained in the Corporate Plan to become an open and enabling Council and one which empowers and cares about people.

A programme of work in support of the Strategy was approved by the Brighter Futures Transformation Board. Actions are aimed at driving an enhanced customer experience, developing a better understanding of customer's needs, and designing and delivering services to meet that need. Staff will be provided with the tools, skills, and knowledge to delivering this with the ultimate aim of building a customer focussed culture across the organisation.

The highway service re-design workstream adopts a customer focused approach. This includes reviewing the current ways of working (people, processes, policies and technology) that underpin the service. The workstream has identified and implemented new ways of working resulting in greater efficiencies and improved processes which improved the customer experience.

The Council's Customer Charter has been introduced as part of the Council's Customer Experience Strategy, to set out the standards to which the Council will strive to adhere to when dealing with its customers. The HIAMP works to further embed the Customer Experience Strategy in the delivery of works upon the highway in Cheshire East. This will see the development and review of new and existing communication processes to help its customers understand the way the highway asset is managed and maintained.

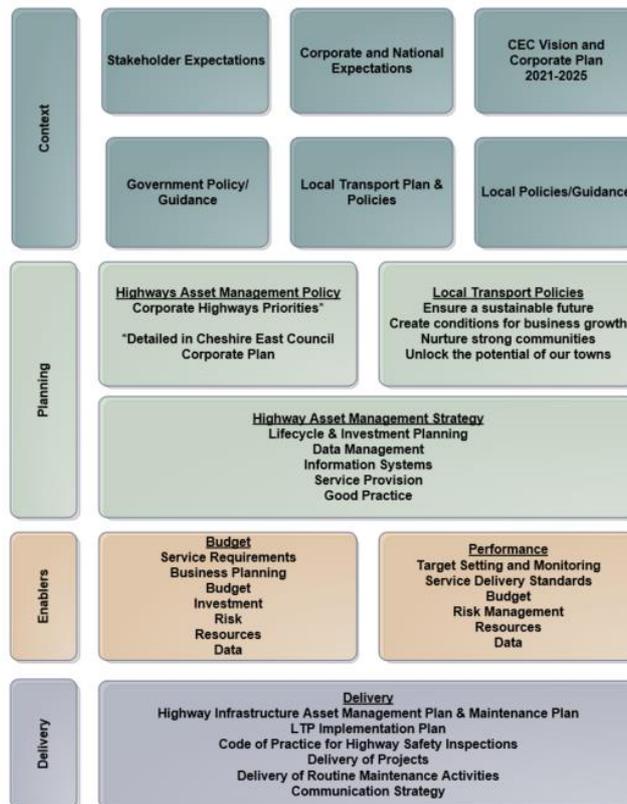
4. Cheshire East Highways – Asset Management Framework

'An Asset Management Framework should be developed and endorsed by senior decision makers. All activities outlined in the Framework should be documented'

Asset Management Framework – Recommendation 1
UK Roads Liaison Group Guidance

The Cheshire East Asset Management Framework is presented in four parts and describes how the Council will embed a continuous approach to highway asset management, including how national developments and good practice are taken into consideration, as well as how the work in Cheshire East can influence the regional and national asset management agenda.

The diagram below identifies the line of sight required in supporting the Asset Management within the Council in both local and national contexts.



The framework is presented in four parts:

Context – Describes the context and ethos for highways infrastructure asset management within the environment in which the highway service is delivered within Cheshire East.

Planning – Describes the policies, strategies, and processes for asset management and how they are applied to the highways service.

Enablers - Describes the functions that enables and supports asset management within the highways service.

Delivery – Describes the plans in place to enable the delivery of the highways service.

5. Asset Management Policy and Strategy

‘An asset management policy and strategy should be developed and published. These should align with the corporate vision and demonstrate the contribution asset management makes towards achieving the vision’

Asset Management Policy and Strategy – Recommendation 3
 UK Roads Liaison Group Guidance

Cheshire East HIAMP is aligned with the clear principles of the Policy and Strategy providing a clear line of sight from local, national, and corporate policies and guidance.

5.1 Asset Management Policy

The Cheshire East Asset Management Policy is a high-level document which sets out the Council’s commitment to Highways Asset Management and aligns and supports the Local Transport Plan.

The Council recognises the vital role played by Cheshire East’s local highway network in supporting the authority’s vision and its strategic priorities. The primary focus of the Policy is to achieve the following objectives:

- The Council is committed to making the best use of its budgets and advocates an asset management approach for the maintenance of the local highway network, to help deliver the best long-term outcomes for residents, businesses, and highway users.
- The Asset Management Strategy will set out how Highway Asset Management will be delivered in Cheshire East. This strategy will consider current and projected financial pressures and opportunities and will explain how available funds and resources should be utilised to maximise their benefit.
- The Council will continue to be a high performing authority that uses its resources well, investing in the 'right treatment, at the right place, at the right time' to secure a long-term sustainable future for the highway infrastructure for the borough.

The work we do contributes to the delivery of the priorities outlined in the Council's Corporate Plan 2021-2025:

The Policy also outlines how it aligns with the Corporate Priorities of:

- A Council which empowers and cares about people
- An open and enabling organisation
- A thriving and sustainable place

5.2 Asset Management Strategy

The Cheshire East Asset Management Strategy sets out how the Council will best manage the highway network to deliver its statutory duties and corporate objectives, taking into consideration the stakeholder and interested parties' needs, local priorities, asset condition and best use of available resources through invest to save initiatives to realise the benefits of early intervention.

The Strategy is guided by the Highway Asset Management Policy and has the following objectives:

- Adopt an asset management approach within the highways service.
- Delivery of the service is led by an effective and efficient Asset Management System.
- Deliver an Asset Management Strategy that considers current and projected financial pressures of the lifecycle of all asset types.
- Set out a framework that will provide an integrated transport system.

6. 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'

Asset Data Management – Recommendation 5
UK Roads Liaison Group Guidance

6.1 Asset Information Strategy

A key requirement for effective asset management is to know and understand the assets which are being managed. The collection and maintenance of asset data assists in a consistent approach to decision making, reporting, and monitoring. Asset data needs to be accurate, reliable, up-to-date, useful, maintained, and well-managed.

On a day-to-day basis, the council, through its maintenance contractor, utilises 'The Operational Cheshire East Highways Asset Information Strategy' (AIS) to inform how data is gathered and stored for highway assets. This supports and aligns with the UKRLG Well-Managed Highway Infrastructure (WMHI) code of practice and the UKRLG Highway Infrastructure Asset Management Guidance (HIAMG) recommendations.

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 9 – Network Inventory (Well-managed Highway Infrastructure)

The quality, currency, appropriateness, and completeness of all supporting asset management data should be regularly reviewed. An asset management register should be maintained that stores, manages, and reports on all relevant asset data.

Recommendation 10 – Asset Data Management (Well-managed Highway Infrastructure)

In order to maximise the effectiveness of our data management, the AIS is intended to carry out a gap analysis across all highway infrastructure asset groups and to identify what information currently exists, what additional data is required to support the asset management process and how Cheshire East Highways (CEH) intend to populate the asset management databases over a period of time.

6.2 Asset Portfolios/Registers

The asset portfolio contains details of our asset stock that make up the highway network. It is vital to know and understand where and what our assets are so they can be inspected, surveyed, and maintained to the appropriate service levels.

6.2.1. 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 all relevant staff and, where appropriate, support the provision of information to stakeholders’

Asset Management Systems – Recommendation 12

UK Road Liaison Group Guidance

6.2.2 Confirm on Demand

Confirm on Demand supports Cheshire East’s Asset Management System and is a modular software package that provides functions used to help deliver the day-to-day highway service including Fix My Street. The system is continually upgraded to provide greater functionality and to maintain compliance.



6.2.3 Additional Software Products

Additional software products are utilised within the service which also support the Asset Management System.

6.2.3.1 Xais

Xa is a visual Pavement Management System by Xais. This software can take large amounts of road and pavement condition data and display it in a visualised format using maps, graphs, charts and videos. This enables us to present condition data to engineering and non-engineering audiences.

Road and pavement data is displayed using a 'Red, Amber, Green' format on the Road Condition Index (RCI) which pulls together the severity of each defect identified in the condition surveys.

6.2.3.2 BridgeStation

BridgeStation is an asset management system designed for highway bridges and structures. The system holds all inspection records and condition surveys, inventory and document management, asset valuation and calculates the Bridge Condition Index (BCI).

6.2.3.3 IMTRAC

Information on the inventory of Traffic Signal infrastructure is held within IMTRAC (Information Management for TRAffic Control). The software incorporates an on-line database with map-based user interface and access (in the office or on street) to all pertinent site information. IMTRAC facilitates easy identification and management of assets, managing faults and replacement planning. IMTRAC is also used to store details of all reported faults/fault clearances, lamp change regimes and bi-annual inspections for each site.

6.2.3.4 KaarbonTech

KaarbonTech is a software package which allows for accurate surveying, inventory creation and monitoring of the gully and drainage assets.

7. 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'

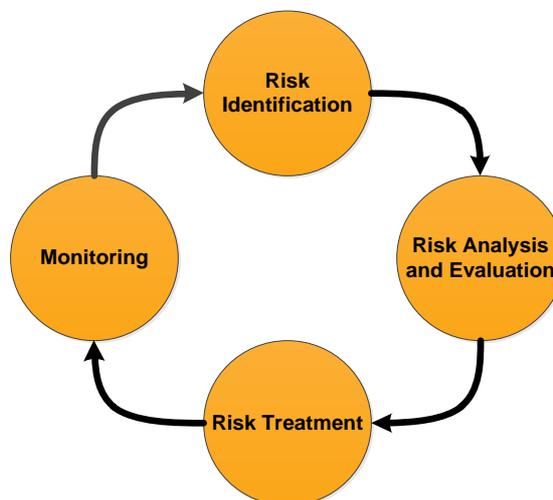
Risk Management – Recommendation 11
UK Roads Liaison Group Guidance

The management of highway maintenance, including the setting of standards for condition and determining priorities and programmes for effective asset management should be undertaken against clear and comprehensive understanding and assessment of the risks and consequences involved.

7.1 How we manage risk

The objective of applying risk management within the asset management plan is to identify the specific risks associated with the management and operation of the network and by doing so, ensuring that these are managed in a structured, appropriate, and auditable manner.

Management of these risks is fundamental to effective asset management and Cheshire East Highways manages this risk via the following process:



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

The Well-managed Highway Infrastructure Code of Practice recommends the development of a Network Hierarchy to prioritise areas of the network in accordance with their expected use, resilience, and local economic and social factors such as industry, schools, hospitals etc. The approach recommended in the Code looks to move away from the traditional prioritisation of the network by road classification i.e. A, B and C etc.

Risks are evaluated strategically and operationally along with asset condition data. Schemes are prioritised in line with available funding resulting in revenue and capital schemes.

As a result of this Cheshire East has developed the below Network Hierarchy:

CATEGORY	CRITERIA
Resilient Network	The category of roads to which priority is given for maintenance and other measures to maintain economic activity and access key services.
Strategic Routes	Trunk and some Principal 'A' class roads between Primary Destinations, routes for fast moving long distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40 mph and there are few junctions.
Main Distributors	Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access.
Secondary Distributors	B and C class roads and some unclassified urban routes carrying buses. In residential and other built up areas these roads have 20 or 30 mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings.
Link Roads	Roads linking between the Main and Secondary Distributor Network with frontage access and frequent junctions. In urban areas these are residential or industrial interconnecting roads with 20 or 30 mph speed limits, random pedestrian movements and uncontrolled parking. In rural areas these roads link the smaller villages to the distributor roads.
Local Access Roads	Roads serving limited numbers of properties carrying only access traffic. In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGVs. In urban areas they are often residential loop roads or cul-de-sacs.

8. Lifecycles

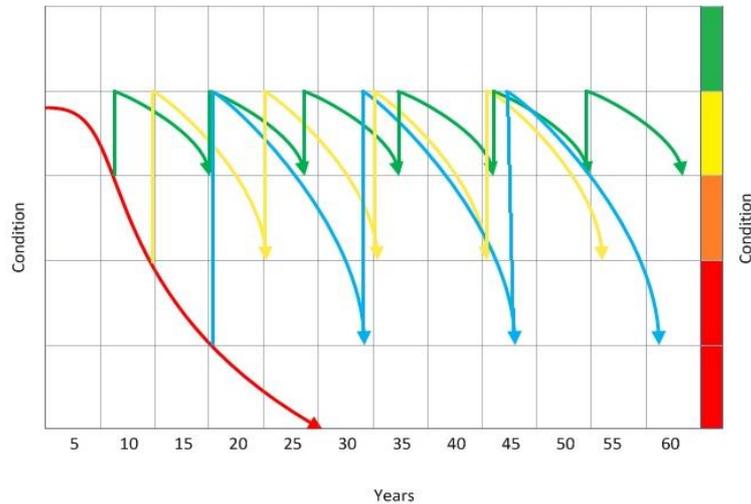
‘Lifecycle planning principles should be used to review the level of funding, support investment decisions and substantiate the need for appropriate and sustainable long-term investment’

Lifecycle Plans – Recommendation 6
UK Roads Liaison Group Guidance

8.1 Lifecycle Planning

Lifecycle planning is the management of an asset from its construction to disposal. Planning for future performance, investment levels and maintenance determines the optimum strategies required to maintain the asset in alignment with the agreed levels of service and budgetary constraints.

Effective lifecycle planning is about making the right investment and using the right treatment at the right time to ensure that the asset delivers the required level of service over its lifespan.



Red Line (Deterioration Curve)

This shows how the asset deteriorates from the date it is constructed over its life span with no intervention. Without any maintenance intervention, it will generally deteriorate to a point where it needs remedial work. It will then reach an unacceptable condition and need full reconstruction or replacement.

Blue Line (Major Treatment)

This shows reconstruction of an asset when it goes below an acceptable condition returning to a 'new' condition after maintenance intervention. At which point it will again begin to deteriorate. This is known as the 'worst first' first method, where funding is invested into assets that are in poor condition and need full or partial reconstruction.

Yellow Line (Intermediate treatment)

This shows remedial works of an asset at more frequent intervals which would be at a lower cost than construction.

Green Line (Multiple treatments)

This shows how an optimum asset management strategy works. It involves a combination of regular preventative maintenance repairs. This approach has cost benefits in terms of the whole life investment costs.

It is recognised that there is almost never a single solution to achieving the desired objective. Therefore, the evaluation of lifecycle costs plays a large part in deciding which option is best in each set of circumstances to deliver minimum whole life cost solutions.

8.2 Carbon

Climate change represents a significant threat to the future sustainability of our planet.

In May 2019, we committed to becoming carbon neutral in our own operations as a council by 2025, and to assist with reducing the borough's carbon footprint. In January 2022, we made a further pledge to make Cheshire East a carbon neutral borough by 2045.

The Council has developed Carbon Neutrality Action Plan 2020-2025 which sets ambitious targets for the Council to be carbon neutral by 2025.

The lifecycle of a highway asset in its construction, management and maintenance can have a sizable environmental impact.

When undertaking construction, management and maintenance activities, we will strive to reduce the carbon footprint and deliver carbon neutrality.

8.3 Life Cycle Plans

Life Cycle Plans define the activities that will be implemented and the resources that will be applied to meet the asset management objectives. A summary of the asset management plans can be found within the appendices.

8.3.1 Carriageway Asset Management Summary Plan – Appendix 1

8.3.2 Footway Asset Management Summary Plan – Appendix 2

8.3.3 Bridges and Structures Asset Management Summary Plan – Appendix 3

8.3.4 Street Lighting Asset Management Summary Plan – Appendix 4

8.3.5 Traffic Signals Asset Management Summary Plan – Appendix 5

8.3.6 Drainage Asset Management Summary Plan – Appendix 6

The above summary plans are live documents and reference the detailed life cycle plans that evolve throughout the life cycle of the asset.

9. Works Programming

‘A prioritised forward works programme for a rolling period of three to five years should be developed and updated regularly’

Works Programming – Recommendation 7

UK Roads Liaison Group Guidance

Using our highways asset management approach, we identify and prioritise what maintenance, repair and improvement work we undertake each year. A forward works plan is produced each year which includes a definite one-year annual works programme of both structural and preventative maintenance. The forward works plan includes a further three-year indicative programme. The plan considers the current asset condition through assessment of each road in terms of age, condition, and usage.

The programmes of work can be found on the Council’s webpage and via this link:

<https://www.cheshireeast.gov.uk/road-repair-programme>

9.1 Levels of Service

The Council have adopted a 3-level strategy for repairs and improvements to assets.

- Level 1 – Keeping the network safe and serviceable.
- Level 2 – Maintaining and Protecting the Network
- Level 3 – Investing to Improve the Network

Each Asset Management Plan details the levels of service and how assets are managed and maintained.

9.2 Data Collection

Collecting data through inspections, surveys and assessments is a vital part of highway asset management. Each asset has an effective condition data collection regime designed to meet statutory and regulatory requirements and to meet the needs to the HIAMP, which includes:

- Collecting data to maintain the highway network in a safe condition
- Funding to be prioritised and allocated effectively
- Understanding the extent of the outstanding work and future investments

Monitoring the condition of the network and identifying trends, locally and nationally against performance.

Data collected from surveys addresses the basic information required to develop programmes for maintenance. An effective inspection regime requires clearly defined:

- Inventory of items to be recorded
- Investigatory levels
- Inspection frequencies
- Actions required

Each Life Cycle Plan and its summary details the exact method of data collection used for that asset.

10. 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'

Performance Management Framework – Recommendation 4
UK Roads Liaison Group Guidance

10.1 Performance Management Framework and Levels of Service

Performance is continually measured to monitor progress against our aims and objectives to drive continuous improvement. The highways service Performance Management Framework has been developed with stakeholders and interested parties and supports the Asset Management Strategy.

The Performance Management Framework (PMF) is a suite of measures linked within three themes:

- Council Priorities
- Asset Management
- Customer

Performance measures are clear, linked with levels of service and, accessible to stakeholders, as appropriate. Indicators are regularly reviewed by the key stakeholders to ensure they remain relevant and their targets challenging but deliverable. Where appropriate, revisions are agreed to reflect the changes and challenges being faced by the service at the time.

Performance measures consist of three types:

Strategic Performance Indicator (SPI)

Strategic indicators monitor the health and direction of the Highways Service Contract and inform decisions relating to the Service Period. Achievement / non-achievement of these indicators have contractual implications.

Operational Performance Indicator (OPI)

Operational indicators measure the effective delivery of the Highways Service Contract and determine the Performance Element of the Fee

Service Indicator (SI)

Service indicators are used to monitor performance and provide useful management information. They may be used to agreeing future amendments to the Performance Indicators

10.2. 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'

Performance Monitoring – Recommendation 13
UK Roads Liaison Group

Performance management is embedded into the service level agreements set by the Highway Service Contract. By monitoring and reporting on performance against key service areas, provides a means to measure short and long-term performance.

10.2.1 System Audits

The Asset Management System is monitored and audited internally and externally to ensure that it is fit for purpose, as well as reviewing the output and how it is being used strategically, tactically, and operationally. Cheshire East is accredited to ISO 9001 Quality Management, ISO 14001 Environmental Management, ISO 45001 Occupational Health and Safety Management, ISO 55001 Asset Management, and ISO 44001 Collaborative Business Relationships. Each standard ensures good practice and innovation within the highways service.

10.2.2 Compliance Monitoring

The Council monitors and audits internally and externally the performance and compliance of our maintenance contractors against their contractual obligations.

11. Benchmarking

‘Local and national benchmarking should be used to compare performance of the Asset Management Framework and to share information that supports continuous improvement’

Benchmarking – Recommendation 14
UK Roads Liaison Group

Local and national benchmarking is used to compare performance of the Asset Management Framework and to share information that supports continuous improvement. Cheshire East Highways are fully engaged in many benchmarking groups and best practice groups.

National Highways and Transportation (NHT)		Cheshire East Highways contribute to the annual National Highways and Transportation Survey (NHT) for the purposes of both benchmarking against similar authorities and gauging the level of customer satisfaction with our services.
Customer Quality Commission Efficiency Network (CQC)		The CQC Efficiency Network benchmarks the cost of carriageway maintenance in local authority areas on a like for like basis. Cheshire East Highways participate to quantify achieved savings and assess costs against other similar authorities.
Asphalt Industry Alliance ALARM Survey		Cheshire East Highways participate in the annual Asphalt Industry Alliance ALARM Survey. Participating in this survey helps to develop consistent, credible data that raises awareness of the condition of the local road network in England and Wales as well as maintenance funding issues.
Association for Public Service Excellence (APSE)		Cheshire East continue to work with the Association for Public Service Excellence (APSE) as an effective means of benchmarking our performance in the delivery of highway maintenance management relative to other similar highway authorities. This helps to identify strengths and weaknesses and to continue to improve the quality of our service.
Influence Cheshire East – Our Citizens Panel		The panel was created and recruited for during 2011 and consists of nearly 3,000 members – Cheshire East residents living the length and breadth of the Borough. These members have volunteered to regularly take part in research exercises, usually surveys, results from which we use to influence the Council and the Borough for the better. As of June 2018, this panel has been refreshed into a Digital Influence Panel.

12. Competencies and Training

‘The appropriate competency required for asset management should be identified, and training should be provided where necessary’

Competencies and Training – Recommendation 10
UK Roads Liaison Group

Authorities should identify the necessary competencies to meet their requirements for asset management. Maintaining regular training is key to staff to keep up to date with asset management practices, legislation, and codes of practice.

Long term asset management involves many people over time. As people change and as the approach evolves, it will be necessary to ensure an orderly transfer of knowledge. This can be best achieved where those involved in asset management have clear roles and where due consideration is given to succession planning and the smooth hand over of responsibilities.

Cheshire East Highways invest and will continue the development of staff and support the overall improvement in the implementation and delivery of asset management. There is a mixture of tailored training such as the Highways Maintenance Efficiency Programme (HMEP) e-learning toolkits and workshops and external training with professional bodies such as Lantra, City and Guilds, British Standards Institute, and the Institute of Asset Management.

The Council, through its maintenance contractor, utilises a Competency Framework.

13. Review

The Cheshire East HIAMP will remain a live document. As new national and local policies, strategies and priorities emerge and new challenges are identified, the HIAMP suite of documents will be reviewed and updated as required. The HIAMP is a vital tool to help the Council and stakeholders to strengthen its place shaping role and its delivery of services to the community.

14. Appendices

All available current Highways Policies and Strategies will be available via the Cheshire East Highways webpage.

1	Cheshire East Highways Carriageway Asset Lifecycle Plan Summary
2	Cheshire East Highways Footways Asset Lifecycle Plan Summary
3	Cheshire East Highways Bridges and Structures Asset Lifecycle Plan Summary
4	Cheshire East Highways Street Lighting Asset Lifecycle Plan Summary
5	Cheshire East Highways Traffic Signals Asset Lifecycle Plan Summary
6	Cheshire East Highways Drainage Asset Lifecycle Plan Summary

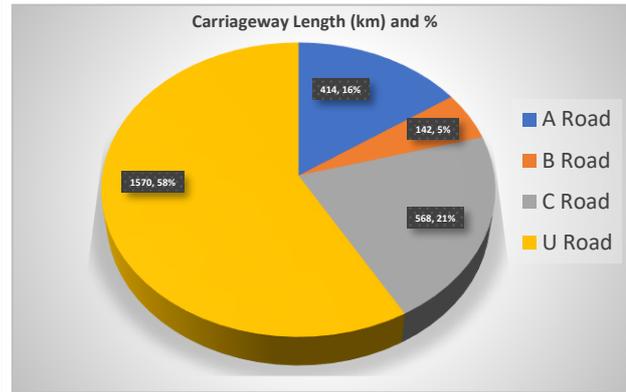
Carriageway Asset Lifecycle Summary

Inventory

The authority has over 2,694 km's in carriageway length which breaks down into the following road categories:

- 414 km of A Roads
- 142 km of B Roads
- 568 km of C Roads
- 1570 km of Unclassified Roads

Each year Cheshire East's carriageway asset will have a small increase due to Council schemes and the adoption of roads from new developments.



Condition

Cheshire East Council carry out annual carriageway surveys of the network to monitor the current condition and assist with the development of annual programmes and lifecycle planning.

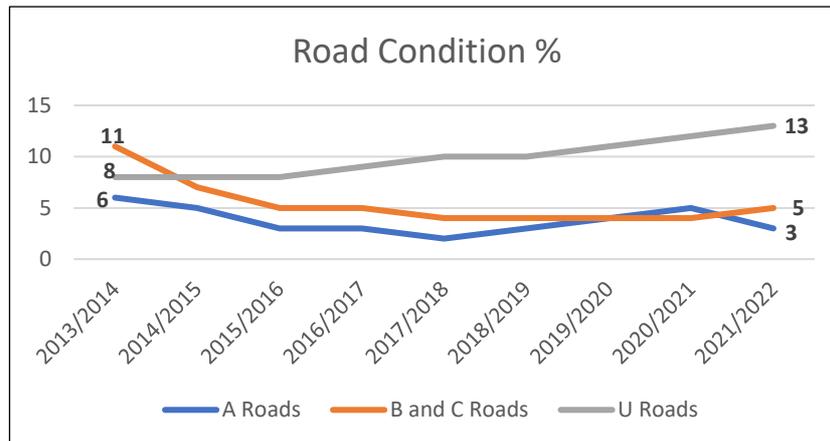
There are a number of different surveys that the Council use, from a surveyor visually inspecting the road to using vehicles with mounted lasers and cameras to measure different aspects of the roads surface, providing a comprehensive picture of the condition of the carriageway asset.

Annually there is a requirement for authorities to report road condition data to the Department for Transport of proportions of the network where maintenance should be considered over the next 12 months.

The condition of the A Road Network within the Borough where maintenance is to be consider over the next 12 months currently stands at 3% in 2021/22. This is an improvement of 3% in comparison to 6% in 2013/14.

The B & C Road Network has also seen an improvement in condition from 11% in 2014 to 5% in 2021/22.

The area of the carriageway network within the Borough which has not improved is the authorities' unclassified network which is the largest section of the road network within Cheshire East. Areas where maintenance should be considered over the next 12 months on the unclassified network has increased by 1% from 12% in 2020 to 13% in 2021/22



In addition to condition, the maintenance of adequate levels of carriageway skidding resistance are an important aspect of highway maintenance, and one that contributes significantly to network safety.

The skid resistance of the A Road Network is annually monitored through a scrim survey. Surfaces with actual skid resistance below a certain threshold identified from the survey are investigated in line with Council's Skid Resistance Strategy.

Investment

Highway's funding is split into two areas – revenue and capital. Revenue comes from Council Tax and is used for day to day maintenance activities. Capital funding is provided by central government grants and the Council's own investment and delivers improvements to the road network.

For the 2022/23 financial year, the highways revenue budget is £10.987 million, and the capital budget is £22.793 million. The level of funding needed to stop the public highway network in the borough getting worse is currently estimated to be per annum £28 million for revenue activities and £27 million for capital works. This year the budget has been allocated across the key service areas. Carriageway investment has been highlighted in bold as follows:

Revenue Investment				
Highway Asset	Council Revenue Budget			
Coordinating Roadworks and other Activities on the highway	£555,695			
Handling enquiries from the public	£179,196			
Inspection of the highway	£501,884			
Bridges and Structures	£256,645			
Drainage system cleaning and repairs	£1,099,171			
Pothole Repairs	£2,184,279			
Other Road Repairs (including road edge failures, damaged paving etc.)	£588,251			
Responding to Emergencies	£683,041			
Road Markings Renewals	£0			
Hedges and Trees	£674,077			
Grass Cutting and Weed treatment	£794,527			
Fencing and Wall Repairs	£0			
Road Signs Cleaning and Repairs	£0			
Winter Service (including gritting and snow clearance)	£1,981,215			
Street Lighting	£567,563			
Traffic Signal	£312,053			
Traffic and Road Safety (including education to schools)	£304,697			
Managing Flood Risk	£304,909			
Budget Total 2022/23	£10,987,202			
Capital Investment				
Highway Asset/ Funding Source	Government Department for Transport (DfT) Local Transport Plan Grants	DfT Pothole Fund & Traffic Signal Maintenance Fund	Council Investment	Total Budget
Road Improvements	£300,000	£5,799,000	£4,000,000	£10,099,000
Footway Improvements	£1,140,000		£542,000	£1,682,000
Drainage Improvements	£1,721,000		£1,100,000	£2,821,000
Bridges and Structures	£1,704,008		£1,000,000	£2,704,008
Street Lighting	£750,000		£400,000	£1,150,000
Traffic Signals	£433,450	£500,000		£933,450
Road Markings	£200,000		£100,000	£300,000
Safety Barriers	£250,000			£250,000
Road Safety Investment	£245,000			£245,000
Sustainable transport Enhancement Programme (STEP)	£895,000			£895,000
Electric Vehicle Charging on Street Funding bid – Match funding			£100,000	£100,000
Infrastructure & Transport Studies	£525,000			£525,000
Local Highway Measures	£640,000			£640,000
Road Signs	£148,542			£148,542
Programme Management	£300,000			£300,000
Budget Totals 2022/2023	£9,252,000	£6,299,000	£7,242,000	£22,793,000

Strategy and Repair Options

A variety of repair processes are required to address the various levels of deterioration through a carriageway's lifecycle. An innovative three level asset management strategy was therefore adopted to rectify carriageway defects through different lifecycle stages:

Level 1 – Safe and serviceable: Permanent repairs to defects through scheduled inspections within prescribed timescales to ensure the network is safe.



Level 2 – Maintaining and protecting: Using a defined programme of works for medium sized patching, targeting areas showing potential to worsen and become future defects.



Level 3 – Investing to improve the network: Surface Dressing and Resurfacing Programme, utilising an asset data-led approach, to provide the most effective treatment, obtaining as much value and cost benefit as possible



Carriageway Service Level Documents

- Cheshire East Council Asset Management Policy
- Cheshire East Council Asset Management Strategy
- Cheshire East Council Highways Safety Inspections Code of Practice
- Cheshire East Highway Infrastructure Asset Management Plan
- Cheshire East Council Skid Resistance Strategy
- Cheshire East Council Adverse Weather Plan

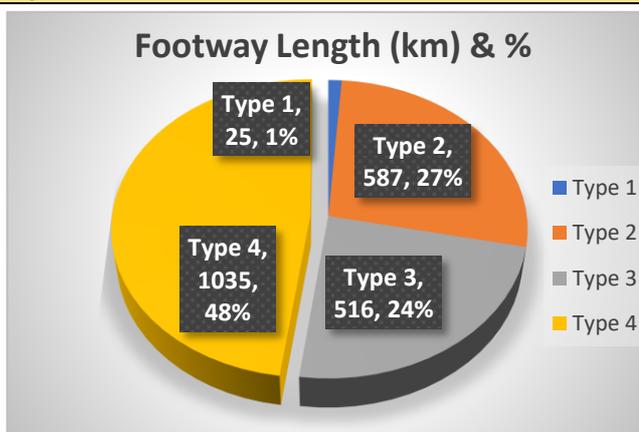
Footway Asset Lifecycle Summary

Inventory

The Footway Network Length in Cheshire East Borough is approximately 2,162 km and is split into the following footway hierarchies:

- Type 1 (Primary Walking Routes) - 25 km
- Type 2 (Secondary Walking Routes) – 587 km
- Type 3 (Link Footways) - 516 km
- Type 4 (Local Access Footways) – 1035 km

Each year Cheshire East’s footway asset will have a small increase due to the adoption of roads from new developments and council schemes



Condition

Cheshire East Council carry out annual footway surveys of the network to monitor the current condition and assist with the development of annual programmes and lifecycle planning.

Current condition information for our high and medium use footways is obtained from detailed visual inspections (DVIs)

The condition of Type 1 and Type 2 footways within the Borough where maintenance is to be consider over the next 12 months currently stands at 32% for 2021/22. This is an increase of 1% in comparison to 31% in 2017/18.

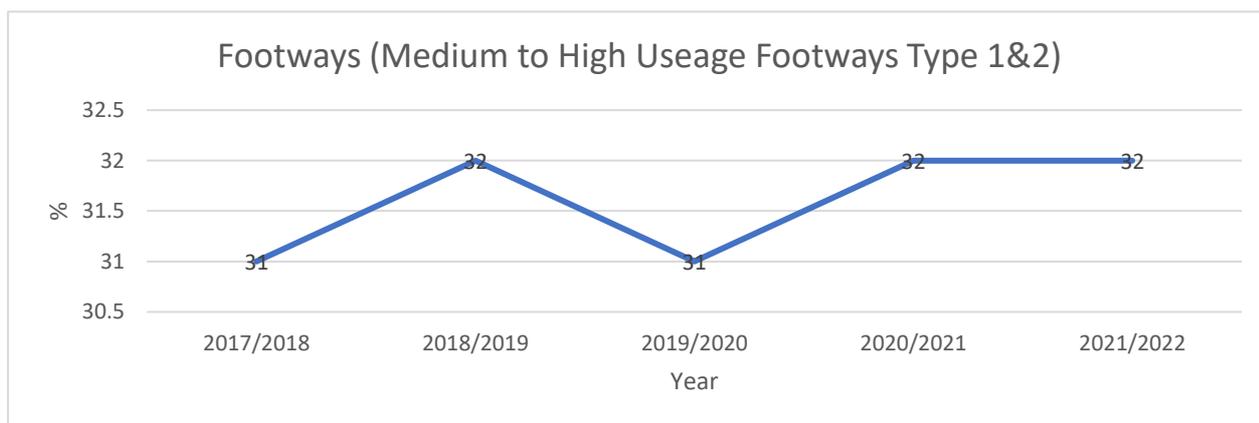


Fig. 1 % of Footways where maintenance is to be consider over the next 12 months.

For lower-use footways around the Borough, the Council undertake an annual survey programme of 25% of the current network, to help identify their current condition and to gain a better understanding of the condition of their footways across all categories.

Investment

Highway’s funding is split into two areas – revenue and capital. Revenue comes from Council Tax and is used for day to day maintenance activities. Capital funding is provided by central government grants and the Council’s own investment and delivers improvements to the highway network.

For the 2022/23 financial year, the highways revenue budget is £10.987 million, and the capital budget is £22.793 million.

The level of funding needed to stop the public highway network in the Borough getting worse is currently estimated to be per annum £28 million for revenue activities and £27 million for capital works.

This year the budget has been allocated across the key service areas shown below. Footway investment has been highlighted in bold as follows:

Revenue Investment				
Highway Asset				Council Revenue Budget
Coordinating Roadworks and other Activities on the highway				£555,695
Handling enquiries from the public				£179,196
Inspection of the highway				£501,884
Bridges and Structures				£256,645
Drainage system cleaning and repairs				£1,099,171
Pothole Repairs				£2,184,279
Other Road Repairs (including road edge failures, damaged paving etc.)				£588,251
Responding to Emergencies				£683,041
Road Markings Renewals				£0
Hedges and Trees				£674,077
Grass Cutting and Weed treatment				£794,527
Fencing and Wall Repairs				£0
Road Signs Cleaning and Repairs				£0
Winter Service (including gritting and snow clearance)				£1,981,215
Street Lighting				£567,563
Traffic Signal				£312,053
Traffic and Road Safety (including education to schools)				£304,697
Managing Flood Risk				£304,909
Budget Total 2022/23				£10,987,202
Capital Investment				
Highway Asset/ Funding Source	Government Department for Transport (DfT) Local Transport Plan Grants	DfT Pothole Fund & Traffic Signal Maintenance Fund	Council Investment	Total Budget
Road Improvements	£300,000	£5,799,000	£4,000,000	£10,099,000
Footway Improvements	£1,140,000		£542,000	£1,682,000
Drainage Improvements	£1,721,000		£1,100,000	£2,821,000
Bridges and Structures	£1,704,008		£1,000,000	£2,704,008
Street Lighting	£750,000		£400,000	£1,150,000
Traffic Signals	£433,450	£500,000		£933,450
Road Markings	£200,000		£100,000	£300,000
Safety Barriers	£250,000			£250,000
Road Safety Investment	£245,000			£245,000
Sustainable transport Enhancement Programme (STEP)	£895,000			£895,000
Electric Vehicle Charging on Street Funding bid – Match funding			£100,000	£100,000
Infrastructure & Transport Studies	£525,000			£525,000
Local Highway Measures	£640,000			£640,000
Road Signs	£148,542			£148,542
Programme Management	£300,000			£300,000
Budget Totals 2022/2023	£9,252,000	£6,299,000	£7,242,000	£22,793,000

Strategy and Repair Options

A variety of repair processes are required to address the various levels of deterioration through a footways lifecycle. An innovative three level asset management strategy was therefore adopted to rectify carriageway defects through different lifecycle stages:

Level 1 – Safe and serviceable: Permanent repairs to defects within prescribed timescales to ensure the network is safe. Sufficient resources were employed to carry out repairs to footway defects identified.

Level 2 – Maintaining and protecting: Using a defined programme of works for medium sized schemes such as patching etc., targeting areas showing potential to worsen and become future defects.

Level 3 – Investing to improve the network: Slurry Seal and resurfacing programme, utilising an asset data-led approach, to provide the most effective treatment, obtaining as much value and cost benefit as possible.



Footway Service Level Documents

- Cheshire East Council Asset Management Policy
- Cheshire East Council Asset Management Strategy
- Cheshire East Council Highway Safety Inspection Code of Practice
- Cheshire East Highway Infrastructure Asset Management Plan
- Cheshire East Council Adverse Weather Plan

Bridges and Structures Asset Lifecycle Summary

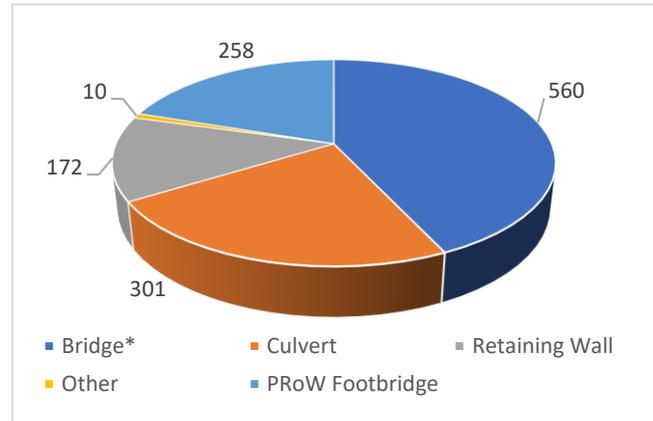
Inventory

The authority has 1,302 structures in Cheshire East. This Asset grouping comprises bridges, culverts, subways and retaining walls.

The list also includes footbridges owned outside of the Highways Portfolio, i.e., Public Rights of Way (PRoW), but is included in the remit for inspection and cyclical maintenance.

The total number of Cheshire East's Bridges and Structures stock can increase due to the adoption of roads from new developments. Proposed structures are recorded on the system at the start of the Technical Approvals process. This allows for a tracked process up to the point when the structure is constructed and adopted by the highway authority.

The number of assets will fluctuate as we undertake regular network reviews and in alignment with national standards and Codes of Practice.



Inspection

In line with current guidance, we undertake periodic inspections of all the structures to ascertain their current condition and measure deterioration rates from previous inspections. The type and frequency of inspections are as follows:

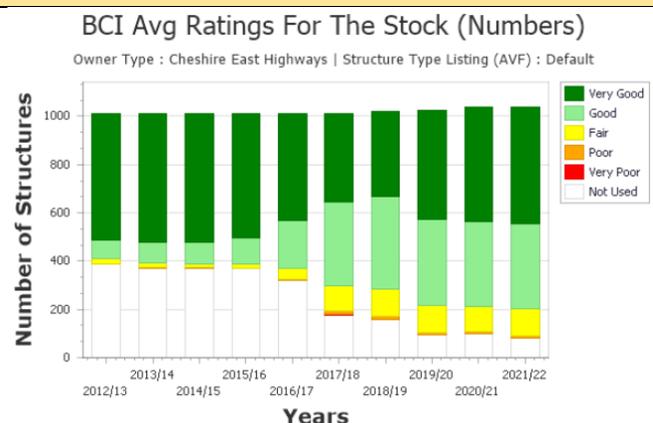
- **Principal** – Detailed, thorough inspection undertaken to every structural element from within touching distance, the frequency is every 6-12 years. Frequency is assessed by undertaking reviews in line with the DMRB CS 450 every two years.
- **General** – Walk around visual inspection from ground level detailing visual defects, there frequency is every 2 years.
- **Special** – Undertaken when required; For example, after road traffic collisions, specific element inspection undertaken outside normal frequencies. This includes specialised diving inspections to check for scour.
- **Monitoring** – Undertaken on agreed frequencies outside of the routine inspections to collect data against specific defects or movement to enable schemes to be developed.

Condition

The graph represents the total number of structures over the past 11 years and their changing condition ratings over that time.

Effective asset management principles were introduced in 2015/16 and this is evident in the following years with a greater understanding of the structure's asset stock and their condition.

The slow rate of deterioration over time is evident within the later part of the graph with an increase in the yellow and amber sections. A large proportion of this is attributed to the inclusion of small span culverts (>0.9m) into the programme.



Investment

Highway's funding is split into two areas – revenue and capital. Revenue comes from Council Tax and is used for day to day maintenance activities. Capital funding is provided by central government grants and the councils own investment and delivers improvements to the road network.

For the 2022/23 financial year, the highways revenue budget is £10.987 million, and the capital budget is £22.793 million.

The level of funding needed to stop the public highway network in the borough getting worse is currently estimated to be per annum £28 million for revenue activities and £27 million for capital works.

This year the budget has been allocated across the key service areas. Bridges and Structures investment has been highlighted in bold as follows:

Revenue Investment

Highway Asset	Council Revenue Budget
Coordinating Roadworks and other Activities on the highway	£555,695
Handling enquiries from the public	£179,196
Inspection of the highway	£501,884
Bridges and Structures	£256,645
Drainage system cleaning and repairs	£1,099,171
Pothole Repairs	£2,184,279
Other Road Repairs (including road edge failures, damaged paving etc.)	£588,251
Responding to Emergencies	£683,041
Road Markings Renewals	£0
Hedges and Trees	£674,077
Grass Cutting and Weed treatment	£794,527
Fencing and Wall Repairs	£0
Road Signs Cleaning and Repairs	£0
Winter Service (including gritting and snow clearance)	£1,981,215
Street Lighting	£567,563
Traffic Signal	£312,053
Traffic and Road Safety (including education to schools)	£304,697
Managing Flood Risk	£304,909
Budget Total 2022/23	£10,987,202

Capital Investment

Highway Asset/ Funding Source	Government Department for Transport (DfT) Local Transport Plan Grants	DfT Pothole Fund & Traffic Signal Maintenance Fund	Council Investment	Total Budget
Road Improvements	£300,000	£5,799,000	£4,000,000	£10,099,000
Footway Improvements	£1,140,000		£542,000	£1,682,000
Drainage Improvements	£1,721,000		£1,100,000	£2,821,000
Bridges and Structures	£1,704,008		£1,000,000	£2,704,008
Street Lighting	£750,000		£400,000	£1,150,000
Traffic Signals	£433,450	£500,000		£933,450
Road Markings	£200,000		£100,000	£300,000
Safety Barriers	£250,000			£250,000
Road Safety Investment	£245,000			£245,000
Sustainable transport Enhancement Programme (STEP)	£895,000			£895,000
Electric Vehicle Charging on Street Funding bid – Match funding			£100,000	£100,000
Infrastructure & Transport Studies	£525,000			£525,000
Local Highway Measures	£640,000			£640,000
Road Signs	£148,542			£148,542
Programme Management	£300,000			£300,000
Budget Totals 2022/2023	£9,252,000	£6,299,000	£7,242,000	£22,793,000

Strategy and Repair Options

A variety of repair processes are required to address the various levels of deterioration through a structure's lifecycle. An innovative three level asset management strategy was therefore adopted to rectify bridges and structures defects through different lifecycle stages:



Level 1 – Interventions aimed towards delivering a required target condition for the structure. All elements are considered for treatment when they reach a condition of 3C. This should be linked to contract performance requirements for overall condition factors.

Level 2 – To be used for regular and frequent minor intervention that slow down the rate of deterioration. All critical elements are considered for treatment when they reach a condition of 3C. This should be linked to network hierarchy as well as gritting routes and all listed structures

Level 3 – To be used for infrequent, but major interventions. The Structures Asset Lifecycle Planning Toolkit suggests intervention at an element condition score of 4D.

Bridges and Structures Service Level Documents

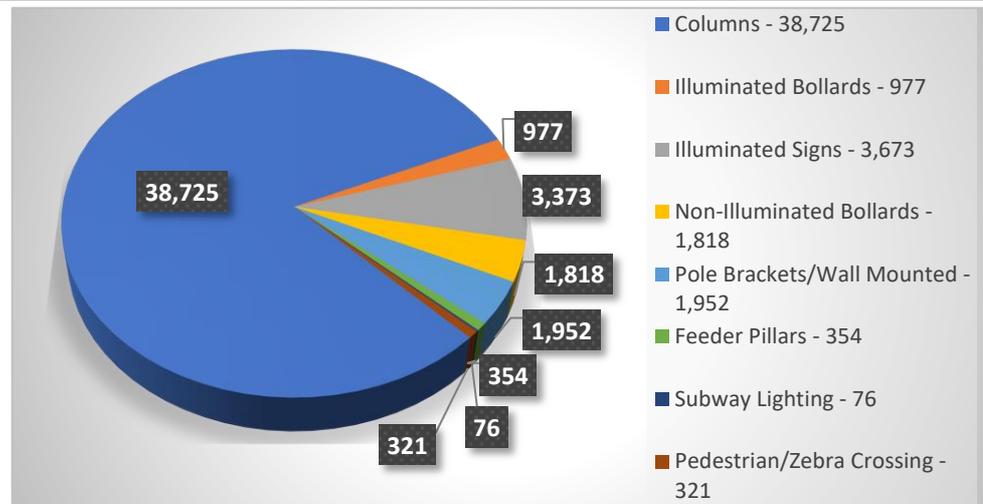
- Cheshire East Highways Asset Management Policy
- Cheshire East Highways Asset Management Strategy
- Cheshire East Council Highway Safety Inspection Code of Practice
- Well-Managed Highway Infrastructure
- Value Management Strategy
- Value Management Guidance notes

Street Lighting Asset Lifecycle Summary

Inventory

The Council has 47,896 street lighting assets.

The majority of these are street lighting columns, illuminated signs and illuminated bollards as shown in the following categories:



Inspection

Regular inspections and checks are undertaken as shown below; -

Structural Testing

This tests the structural integrity of the asset. The Borough's Street Lighting columns will be tested every 6 years until such time as they reach an age at which they should be considered for replacement. The replacement age of a column is determined by several factors including but not limited to the location of the column, its surface protection, wind exposure and if any attachments are fitted to the column. Generally, this age is around 25 years (BS EN 40 gives the Design Working Life) after installation however if the column is in an area with less severe environmental conditions this age may be longer.

After an initial test subsequent tests are undertaken every 6, 3, 2 or 1 year, depending upon the results of the previous test and the recommendation provided by the tester.

Steel lighting columns are visually inspected with an endoscope and ultrasonic material thickness testing is carried out if the endoscope reveals a potential problem. Concrete columns are visually tested.

The Council also has lighting brackets mounted on Electricity Board wooden poles, bridges and other buildings and structures that are not owned by the Council. Structural testing only ascertains if the bracket (and ancillary equipment) fixing to these structures is sound. Maintenance of the structure itself is the responsibility of others.

Electrical Testing

This tests the safety of electrical elements of the asset to BS 7671 18th Edition standard. Electrical testing of each lighting unit, feeder pillar and Council-owned cable network is carried out every six years in accordance with the IEE regulations.. Columns on the Council-owned cable network will be programmed for rectification whilst columns on Distributor Network Operator's cable network will be sent to the necessary DNO for review.

Night Scouting

Night scouts are currently carried out 2 times yearly to ensure lighting is operational

Condition

To ensure that the desirable levels of service of a column are met measurements will be taken and recorded. The condition of the lighting asset is also a key area of public interest. The table identifies the areas of testing and frequency to ensure asset condition.

Operation	Frequency
Structural Test	6 Yearly Cycle (max)
Electrical Test	6 Yearly Cycle
Visual Safety Check	During each maintenance or Capital Visit
Night Inspection	Once annually during winter period

Detailed analysis of the street lighting asset stock has shown that different types of lighting columns have different structural defects. Testing of steel lighting columns has shown considerable variability of lighting column condition in any one location. The main cause of failure is internal corrosion, our practice is to replace only those steel columns which fail the structural test.

A visual safety check of the condition of each lighting column is carried out on every visit. Lighting columns thought to be structurally unsound are assessed further and may be subject to an emergency "make safe" or are replaced in the shortest possible timescale.

Investment

Highway's funding is split into two areas – revenue and capital. Revenue comes from Council Tax and is used for day to day maintenance activities. Capital funding is provided by central government grants and the Council's own investment and delivers improvements to the road network.

For the 2022/23 financial year, the highways revenue budget is £10.987 million, and the capital budget is £22.793 million.

The level of funding needed to stop the public highway network in the Borough getting worse is currently estimated to be per annum £28 million for revenue activities and £27 million for capital works.

This year the budget has been allocated across the key service areas. Street Lighting investment has been highlighted in bold as follows:

Revenue Investment

Highway Asset	Council Revenue Budget
Coordinating Roadworks and other Activities on the highway	£555,695
Handling enquiries from the public	£179,196
Inspection of the highway	£501,884
Bridges and Structures	£256,645
Drainage system cleaning and repairs	£1,099,171
Pothole Repairs	£2,184,279
Other Road Repairs (including road edge failures, damaged paving etc.)	£588,251
Responding to Emergencies	£683,041
Road Markings Renewals	£0
Hedges and Trees	£674,077
Grass Cutting and Weed treatment	£794,527
Fencing and Wall Repairs	£0
Road Signs Cleaning and Repairs	£0
Winter Service (including gritting and snow clearance)	£1,981,215
Street Lighting	£567,563
Traffic Signal	£312,053
Traffic and Road Safety (including education to schools)	£304,697
Managing Flood Risk	£304,909
Budget Total 2022/23	£10,987,202

Capital Investment

Highway Asset/ Funding Source	Government Department for Transport (DfT) Local Transport Plan Grants	DfT Pothole Fund & Traffic Signal Maintenance Fund	Council Investment	Total Budget
Road Improvements	£300,000	£5,799,000	£4,000,000	£10,099,000
Footway Improvements	£1,140,000		£542,000	£1,682,000
Drainage Improvements	£1,721,000		£1,100,000	£2,821,000
Bridges and Structures	£1,704,008		£1,000,000	£2,704,008
Street Lighting	£750,000		£400,000	£1,150,000
Traffic Signals	£433,450	£500,000		£933,450
Road Markings	£200,000		£100,000	£300,000
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Local Highway Measures	£640,000			£640,000
Road Signs	£148,542			£148,542
Programme Management	£300,000			£300,000
Budget Totals 2022/2023	£9,252,000	£6,299,000	£7,242,000	£22,793,000

A variety of repair processes are required to address the various levels of deterioration through a streetlight's lifecycle.

An innovative three level asset management strategy was therefore adopted to rectify street lighting defects through different lifecycle stages:



Level 1 – Safe and serviceable: To undertake reactive maintenance works onstreet lighting stock to expeditiously prevent short term deterioration and keepin a safe condition.

Level 2 – Maintaining and protecting: Using a defined programme of works such as lamp replacement programmes, targeting areas showing potential to worsen and become future defects.

Level 3 – Investing to improve the network: Investment in new energy efficientled technology adopting dimming and trimming protocols on all new installations to control energy expenditure and reduce carbon footprint. Column Replacement Programme based on a risk assessment, age, and material profile.

Street Lighting Service Level Documents

- Cheshire East Highways Asset Management Policy
- Cheshire East Highways Asset Management Strategy
- Well-Managed Highway Infrastructure
- Cheshire East Highway Infrastructure Asset Management Plan
- GN22/19 – Asset Management Toolkit: Minor Structures

Traffic Signals Asset Lifecycle Summary

Inventory

An annual inventory and condition survey is undertaken upon all sites on the Cheshire East network.

Each year Cheshire East's Intelligent Transport Systems (ITS) asset will increase. This is due to the adoption of installations associated with new developments and the implementation of safety schemes and local authority initiatives which use ITS facilities to improve driver and pedestrian safety.

Summary of Traffic Signal Installations	
Description	Number
Signal Controlled Junction	112
Pelican Crossings	6
Puffin and Toucan Crossings	149
Fire Safety Priority Equipment	0
Total	267

Summary of ITS Equipment Inventory	
Description	Number
Urban Traffic Control System	0
Traffic Signals Remote Monitoring System	1
VAS & SIDS	120
School Wig Wag Signs (SWW's)	339
Total	460

Condition

A consistent scoring system is used to rate and track the condition of all equipment at each individual site. Each asset includes a field for its installation date.

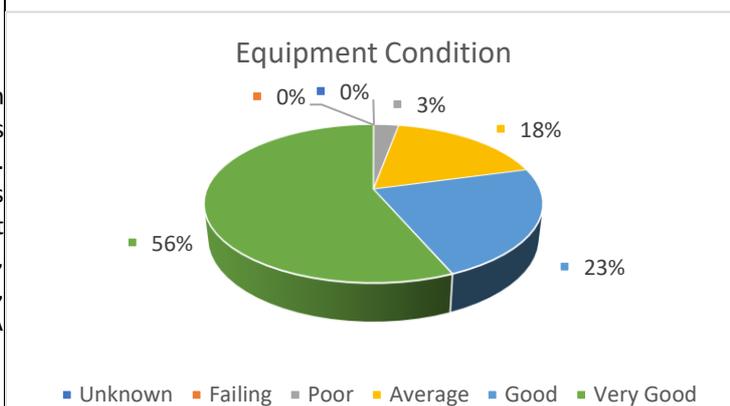
The condition ratings used are:

- Very Good,
- Good,
- Average,
- Poor,
- Failing.

Overall, the current asset is in good condition with an average condition rating of 83% with no installations considered to be in a poor or failing condition. However, there are still several junctions and crossings which, although working well, do not meet current CEH requirement with respect to operational function, for example having obsolete, but working equipment, far-sided pedestrian equipment or requiring MOVA control.

All assets reported as failing are immediately listed for the following year's replacement programme. Assets reported as being in poor condition are also added to the list with the intention of replacement should budget allocations permit.

Should an individual site be identified as containing a large amount of failing and poor equipment, then consideration is given to full refurbishment of the installation.



Investment

Highway's funding is split into two areas – revenue and capital. Revenue comes from Council Tax and is used for day to day maintenance activities. Capital funding is provided by central government grants and the Council's own investment and delivers improvements to the road network.

For the 2022/23 financial year, the highways revenue budget is £10.987 million, and the capital budget is £22.793 million.

The level of funding needed to stop the public highway network in the Borough getting worse is currently estimated to be per annum £28 million for revenue activities and £27 million for capital works.

This year the budget has been allocated across the below key service areas. Traffic Signal investment has been highlighted in bold as follows:

Revenue Investment				
Highway Asset				Council Revenue Budget
Coordinating Roadworks and other Activities on the highway				£555,695
Handling enquiries from the public				£179,196
Inspection of the highway				£501,884
Bridges and Structures				£256,645
Drainage system cleaning and repairs				£1,099,171
Pothole Repairs				£2,184,279
Other Road Repairs (including road edge failures, damaged paving etc.)				£588,251
Responding to Emergencies				£683,041
Road Markings Renewals				£0
Hedges and Trees				£674,077
Grass Cutting and Weed treatment				£794,527
Fencing and Wall Repairs				£0
Road Signs Cleaning and Repairs				£0
Winter Service (including gritting and snow clearance)				£1,981,215
Street Lighting				£567,563
Traffic Signal				£312,053
Traffic and Road Safety (including education to schools)				£304,697
Managing Flood Risk				£304,909
Budget Total 2022/23				£10,987,202
Capital Investment				
Highway Asset/ Funding Source	Government Department for Transport (DfT) Local Transport Plan Grants	DfT Pothole Fund & Traffic Signal Maintenance Fund	Council Investment	Total Budget
Road Improvements	£300,000	£5,799,000	£4,000,000	£10,099,000
Footway Improvements	£1,140,000		£542,000	£1,682,000
Drainage Improvements	£1,721,000		£1,100,000	£2,821,000
Bridges and Structures	£1,704,008		£1,000,000	£2,704,008
Street Lighting	£750,000		£400,000	£1,150,000
Traffic Signals	£433,450	£500,000		£933,450
Road Markings	£200,000		£100,000	£300,000
Safety Barriers	£250,000			£250,000
Road Safety Investment	£245,000			£245,000
Sustainable transport Enhancement Programme (STEP)	£895,000			£895,000
Electric Vehicle Charging on Street Funding bid – Match funding			£100,000	£100,000
Infrastructure & Transport Studies	£525,000			£525,000
Local Highway Measures	£640,000			£640,000
Road Signs	£148,542			£148,542
Programme Management	£300,000			£300,000
Budget Totals 2022/2023	£9,252,000	£6,299,000	£7,242,000	£22,793,000

A variety of repair processes are required to address the various levels of deterioration through a traffic signal's lifecycle. An innovative three level asset management strategy was therefore adopted to rectify traffic signal defects through different lifecycle stages:



Level 1 – Reactive maintenance: Repair of faults on an ad-hoc basis as they occur and are reported via our remote monitoring system, via the public or spotted whilst passing by our maintenance engineers or highlighted within inspections.

Level 2 – Replacement schemes: Identified annually through evaluation of individual equipment item asset condition data with a risk rating approach. This includes replacement of poles, pedestrian push buttons and controllers. Annual works are budget dependent and are undertaken in the order of worse condition first.

Level 3 – Improvement schemes: Identified annually through evaluation of overall asset condition and type for each site, including crossing upgrades, upgrades of mode of vehicle detection and full traffic signal refurbishment. These works are budget dependent and are evaluated annually and consider numerous other criteria such as road hierarchy, usage, local development, congestion, etc.

Traffic Signals Service Level Documents

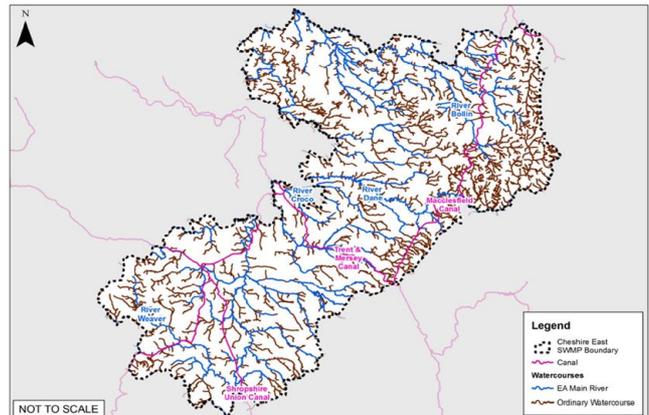
- Cheshire East Council Asset Management Policy
- Cheshire East Council Asset Management Strategy
- Well-managed Highway Infrastructure
- Cheshire East Highway Infrastructure Asset Management Plan

Drainage Asset Lifecycle Summary

Inventory

The highway drainage asset consists of a wide-ranging inventory including road and footway gullies, carrier drains, manholes and catchpits, combined kerb drains, culverts, petrol interceptors, storage tanks, balancing ponds and pumping stations.

The drainage systems across the Cheshire East network have evolved over the last 150 years. This process is continuing within the heavily regulated natural catchment and environment and makes full use of the complex network of drainage systems which eventually drain to the sea and/or natural groundwater systems.



Inspection and Condition

Highway drainage assets are inspected using a variety of methods:

- Regular highway safety inspections in accordance with Cheshire East Council's Code of Practice for Highway Safety Inspections
- Programmed annual and half-yearly maintenance inspections of larger assets
- Annual network condition surveys, including Course Visual Inspections and Detailed Visual Inspections
- Scheduled gully cleaning programme
- Ad hoc inspections in response to enquiries and requests for service

Over recent years, condition data has been collected for all road gullies at the time of each empty. As well as recording the date and time of empty, conditions can be collected such as the information relating to the amount of detritus in the pot, damage to the grate and frame, contamination, obstructions from parked vehicles etc. This information can then be presented on the GIS mapping system, providing data intelligence to help us prioritise our work programmes.

Maintenance

Gully emptying is the first stage of the process to ensure that all of the highway drainage assets are functioning. If the gully is found to be clear and the connection discharges water effectively, no further work will be required. However, if this isn't the case, the gully will be recorded in the asset system for further action. All such 'red tags' will then be programmed for clearing. This will usually take place on completion of that emptying schedule.

If the 'red tag' cannot be resolved at this time, a further visit will be required with a higher-pressure jetting unit. These will be prioritised based on clearly defined criteria depending on class of road, location, hazard to highway users, risk of flooding to property etc.

In most cases, the high pressure jetter will be able to resolve the problem.

However, other problems can be encountered:

- Blockages identified in public sewers.
- Blockages identified in private property.
- Blockages that cannot be resolved by jetting.

Depending on what is encountered, further follow up action will be necessary:

- Referral to the water and sewer company (United Utilities).
- Referral to adjacent landowner or riparian owner.
- Referral to Cheshire East Highways Flood Risk Management Team.
- CCTV or other surveys.
- Root cutting.
- Excavation and repair.

Where further work is Cheshire East Highway's responsibility, this will be prioritised and programmed using the same criteria and asset management approach we use for all highway drainage works.

Investment

Highway's funding is split into two areas – revenue and capital. Revenue comes from the Council Tax and is used for day to day drainage maintenance and cleansing type activities. Capital funding is provided by central government grants and the councils own investment and delivers improvements to the drainage network.

For the 2022/23 financial year, the highways revenue budget is £10.987 million, and the capital budget is £22.793 million.

The level of funding needed to stop the public highway network in the borough getting worse is currently estimated to be per annum £28 million for revenue activities and £27 million for capital works.

This year the budget has been allocated across the key service areas. Drainage investment has been highlighted in bold as follows:

Revenue Investment

Highway Asset	Council Revenue Budget
Coordinating Roadworks and other Activities on the highway	£555,695
Handling enquiries from the public	£179,196
Inspection of the highway	£501,884
Bridges and Structures	£256,645
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Programme Management	£300,000			£300,000
Budget Totals 2022/2023	£9,252,000	£6,299,000	£7,242,000	£22,793,000

Drainage Repair Strategy

A variety of repair processes are required to address the various levels of deterioration through a lifecycle of a drainage asset. An innovative three level asset management strategy was therefore adopted to rectify drainage issues through different stages of the asset's lifecycle:



Level 1 – Safe and serviceable: A scheduled programme of gully cleaning is undertaken across the road network to ensure that the collection of waste is removed so water can flow freely.

Level 2 – Maintaining and protecting: Using a defined programme of drainage investigation works to expose and examine through excavation if a highway drainage system is operating properly and to carry out any minor repairs where necessary.

Level 3 – Investing to improve the network: Drainage renewal and improvements, utilising an asset data-led risk-based approach, to provide the most effective drainage solution whilst obtaining as much value and cost benefit as possible.

Drainage Service Level Documents

- Cheshire East Council Asset Management Strategy
- Cheshire East Council Asset Management Policy
- Cheshire East Council Highway Safety Inspection Code of Practice
- Cheshire East Highway Improvement Programme Plan
- Cheshire East Highways Infrastructure Asset Management Plan
- UKRLG Guidance on the Management of Highway Drainage Assets
- The Highways Maintenance Efficiency Programme (HMEP) Guidance of Highway Drainage Assets 2012