

Highway Asset Management Strategy 2023

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Document Structure

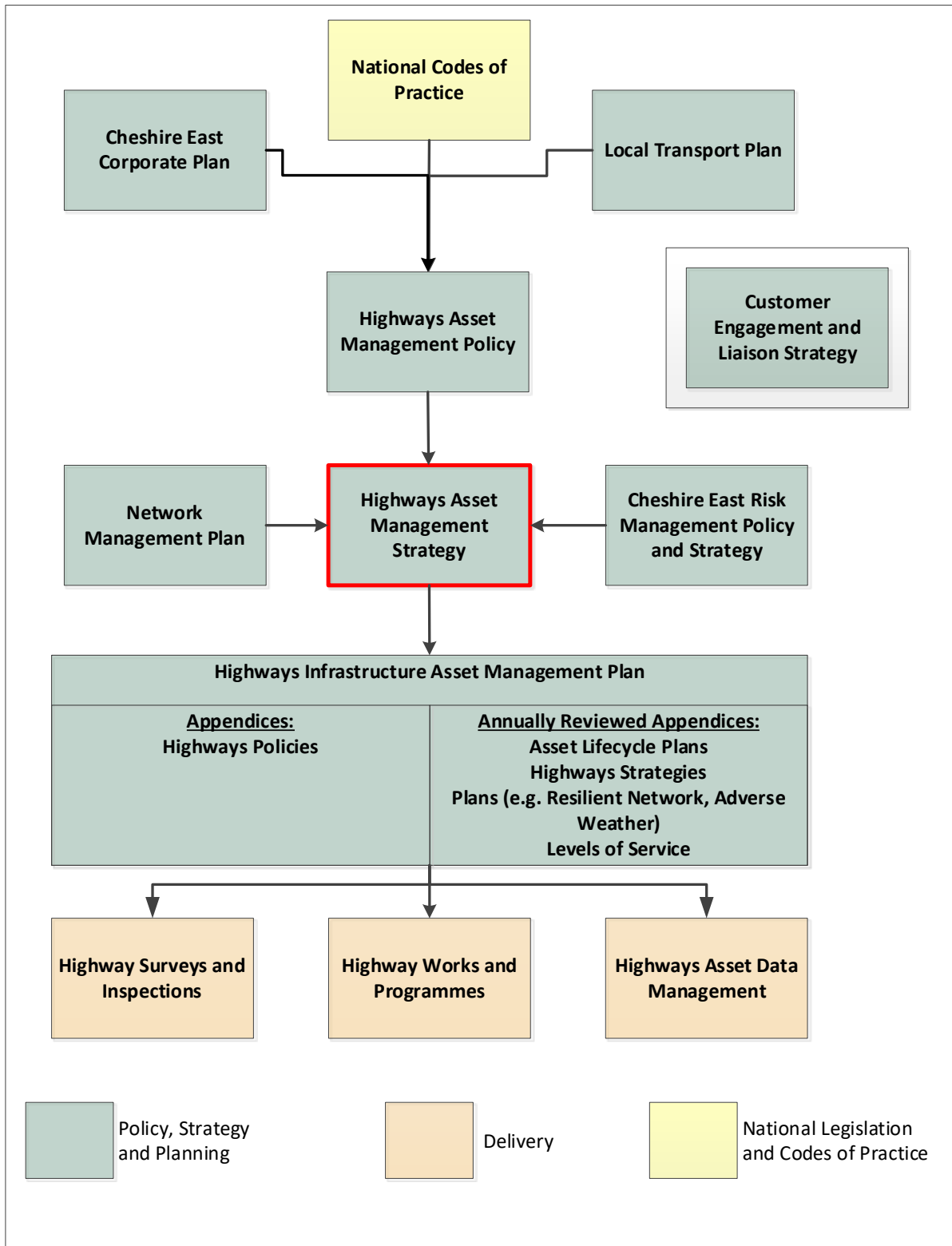


Figure 1: Cheshire East Strategic Documents

1. Introduction

Cheshire East Council (Hereinafter referred to as the Council) 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.

The Highway Asset Management Policy has been developed to define how the implementation of asset management supports the Council in delivering its corporate vision. The Highway Asset Management Strategy sets out how the Council will best manage the highway network, taking into consideration customer needs, local priorities, risk, asset condition and the best use of available resources through invest to save initiatives that realise the benefits of early intervention.

This Highway Asset Management Strategy 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 an optimised whole life cost approach to our Highway Assets.

The Highway Asset Management Strategy will be used to inform highway maintenance activities that are to be implemented during the Council's Corporate Plan 2021-2025 lifespan.

This Highway Asset Management 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

Cheshire East's highway network comprises of just over 2,700 km 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 are 1,900 km, of which just over 32 km is shared cycleway/footway.

The highway asset also includes over 386 traffic signal junctions and 144 pedestrian crossings, 33,700 traffic signs of which 3,700 are lit, over 57 km of safety fencing and more than 40,000 streetlights. In terms of structures, the Council is responsible for approximately 1,700 road bridges, foot bridges, underpasses, subways, culverts, and retaining walls. The highway asset also includes drainage, street furniture, road markings and soft estate.

The Council has calculated the asset value in accordance with the requirements for Whole of Government Accounts. The gross replacement cost was estimated to be over £6 billion.

The Council as the Highway Authority has a statutory duty under the Highways Act 1980 to maintain the highway network in a condition to enable the safe passage of the travelling public. The borough's highway network comprises of 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. Overall Objectives of the Strategy

In alignment with the vision and priorities set by the Corporate Plan and the objectives established in the Highway Asset Management Policy, the following strategic objectives provide guidance to support the delivery of the service and establish a clear line of sight.

Our objectives are to:	This will be achieved by:
Adopt an asset management approach within the highways service.	Adopting an approach in line with ISO 55001:2014 for the management and maintenance of the highway

	assets, ensuring the right treatment, in the right place, at the right time Supporting our stakeholders by considering the long-term performance of the highway assets
Delivery of the service is led by an effective and efficient Asset Management System	Optimising the resources required to plan, support, maintain and improve the Cheshire East highway network
Deliver an Asset Management Strategy that considers current and projected financial pressures of the lifecycle of all asset types	Providing strategic levels of service Providing the optimum levels of planned maintenance activities for the most effective and economic benefits Making highway investment decisions on a whole life basis
Set out a framework that will provide an integrated transport system	Minimise cost over time Maximises value to the community and environmental contribution supporting lower carbon choices

Table 1: Highway Asset Management Strategic Objectives

4. Identifying Stakeholders Needs

The Council participates in various benchmarking and customer focussed surveys including the National Highways and Transportation (NHT) survey which is carried out by an independent organisation nationally on an annual basis. The NHT gathers information from a random selection of residents from Cheshire East on satisfaction and what they consider as important. The full results can be found on:

<http://nhtnetwork.org/nht-public-satisfaction-survey/findings>

The NHT survey covers various themes including public transport, accessibility, walking and cycling, tackling congestion, road safety, highways maintenance and enforcement. By identifying what residents consider important themes; The Council can establish the main priorities for future budgets.

As part of the Brighter Future Transformation Programme, in particular the Customer Experience Strategy, the highways service is undergoing a Customer Satisfaction Improvement Plan

The Cheshire East Highways Communication Strategy, Highway Asset Management Strategy and Highways Infrastructure Asset Management Plan allows for more focused consultation and engagement to take place with identified key stakeholders on an on-going basis.

5. Managing the Highway Asset

This Highways Asset Management Strategy 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.

Encompassed within the framework are several 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-Managed Highway Infrastructure
- Design Manual for Roads and Bridges (DMRB)
- Manual of Contract Documents for Highway Works (MCHW)
- Manual for Streets

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 and allows the Council to achieve greater efficiency in maintaining its highway infrastructure assets in the future.

The Council has established an organisational structure (Figure 2) 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.

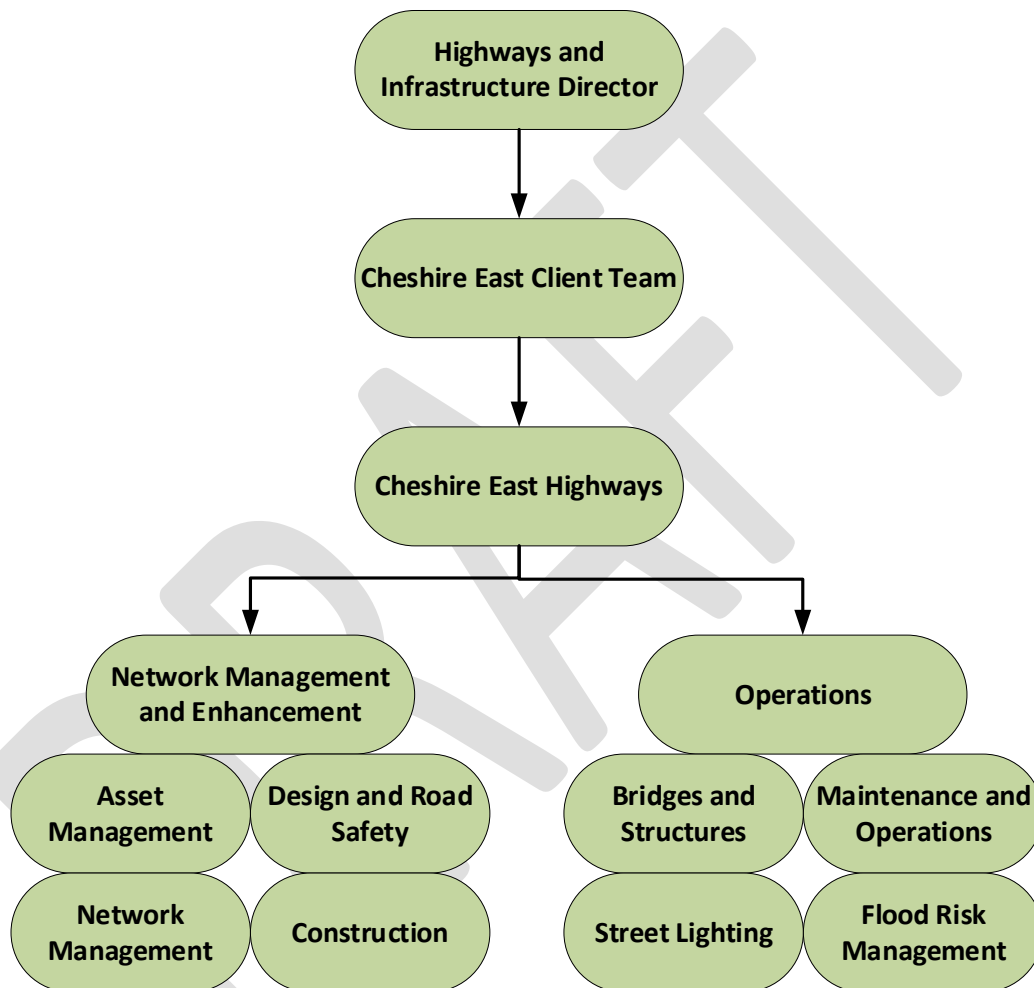


Figure 2: Organisational Structure

This Highway Asset Management Strategy describes the initiatives and processes that enable the implementation of asset management. It also refers to the enablers, both tools and information, necessary for delivering the highway service effectively and efficiently.

The Council has implemented asset management principles for several years. This approach is further demonstrated by the Asset Repair Programme which is providing additional capital funding to support the highway 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.

6. Asset Management

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

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.

The adoption and implementation of asset management principles, strategies and plans provides a means for the Council 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.

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. The “Highway Investment Programme” is a good example of how asset management has demonstrated the case for additional capital funding.

7. Asset Management Framework

This Strategy sets out how the Highway Asset Management Policy will be achieved. 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.

This strategy serves as a basis for the development of a detailed Highway Infrastructure Asset Management Plan and its implementation, including enabling the organisation, its technology, and its processes to adapt to change.

This strategy is based on the framework shown schematically in Figure 3 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.

The Highway Asset Management Strategy informs priorities in the planning and delivery process and supports continual improvement in the management of the highway asset.

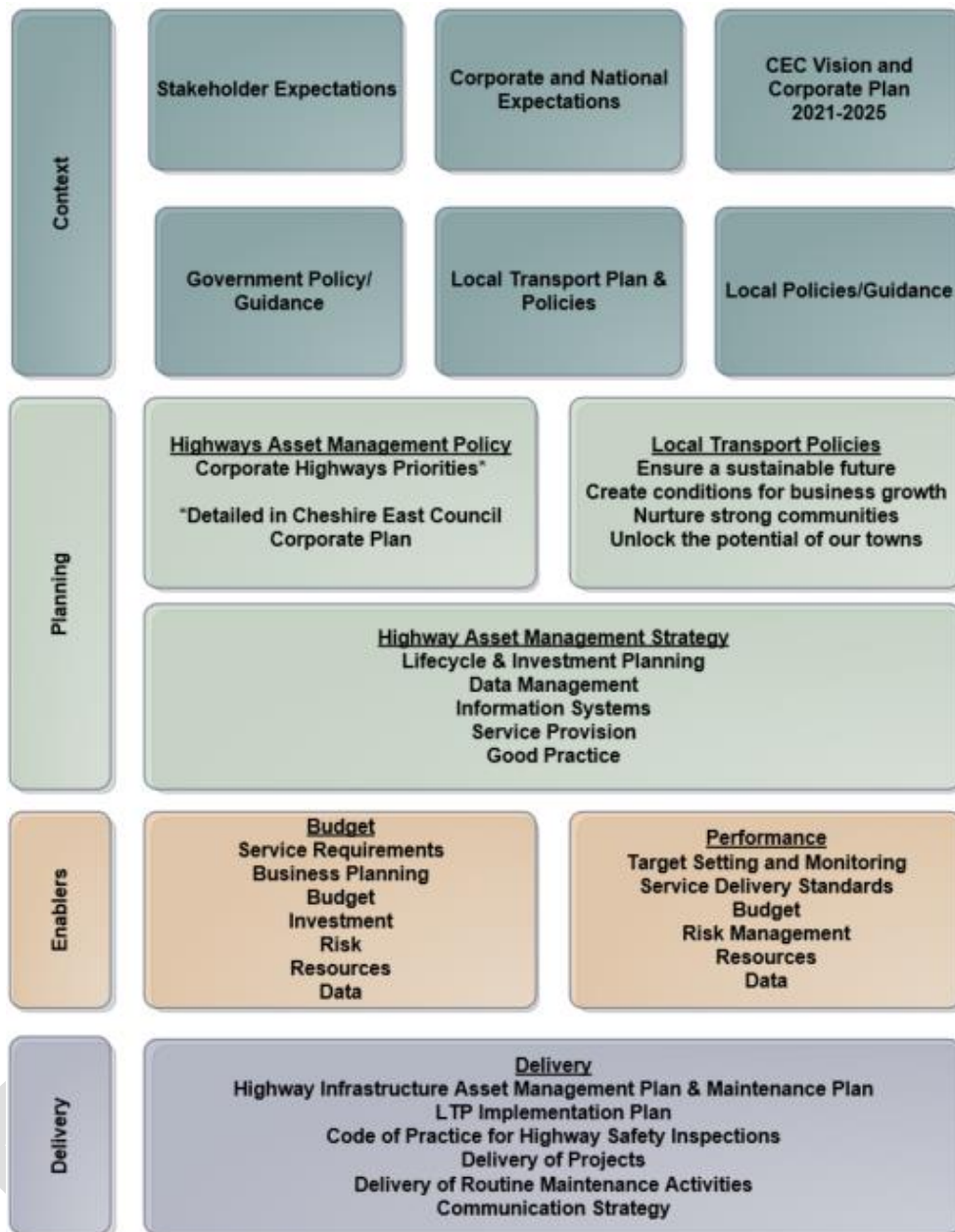


Figure 3: Asset Management Framework

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.

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.

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.

8. Strategy for Individual Assets

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.

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 Five Year Plan objectives.
- Sustainable Community Strategy.
- Local Plan.
- Local Transport Plan.
- Service Delivery and Planning; and
- Performance Targets.

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.

In line with national guidance and good practice, the Council has developed a lifecycle approach to managing its highway maintenance activities.

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. The goal of the Council 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.

The NBB approach of the Council in 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.

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.

This understanding can only be achieved through reliable, current, and robust data. The 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.

9. Asset Groups and Components

The Council's highway infrastructure has been divided into key assets groups and components, as described in Table 2.

Table 2: Asset Groups and Components

Asset Group*	Asset Component
All Classification of Road	Carriageway, footways, and cycleways
Structures	Bridges, retaining walls, culverts

Streetlighting	Streetlights, 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 barns

*For the scope of registration (ISO 55001:2014 Asset Management - Management Systems – Requirements): Carriageways, Footways, Street Lighting, Traffic Signals, Bridges and Structures.

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.

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.

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.

10. Asset Management Planning

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.

At the asset group level the forward-looking work programmes are developed and aligned to reflect the Government's Comprehensive Spending Review. This allows the Council to develop a longer-term programme of work, which can be critical where short duration windows of opportunity exist to carry out preventative treatments, such as application of surface dressing treatments or protective coating systems to carriageways.

The Council considers that NBB is fundamental to good asset management planning and robust investment and lifecycle planning decisions. Substantial resources have therefore been focused on and will continue to support the development of processes and tools to inform budget decisions at strategic and asset group levels. An overview of the budget allocation process is shown below in Figure 4.

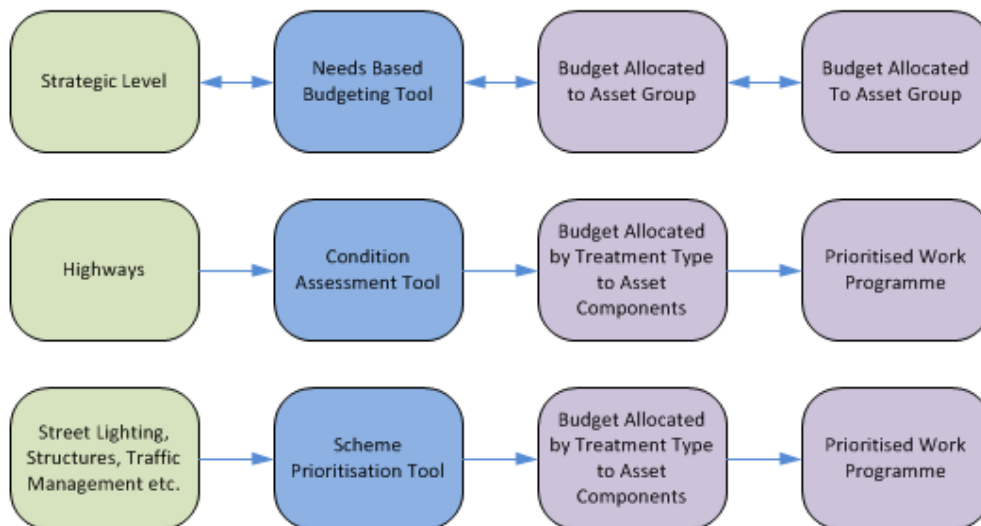


Figure 4: Budget Allocation Process

This budget allocation approach allows a consistent process and relates high level aspirations to scheme level decisions. At the Strategic Level processes and tools have been developed which allow informed budget allocation decisions to be measured across a range of criteria.

In broad terms, three treatments sets have been developed for our Asset Groups.

- Planned Maintenance – replace or enhance.
- Preventative Maintenance – arrest deterioration prolongs life cycle; and
- Reactive Maintenance – maintain public safety.

Targeted investment and informed decisions are therefore encouraged, to deliver the **‘right treatment, at the right time, in the right place’**, by identifying the level of service that can be achieved for a given budget allocation.

We have also developed several tools to assess the impact of changing funding levels of each activity to the overall service. At the highways service level, a tool for carriageways and footways has been developed, which allows lifecycle aspirations to be considered and compared with condition targets, budget constraints and stakeholder’s wishes, offering options for route and treatment strategies, with ‘preventative’ treatments having higher priority weightings.

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.

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.

11. Gross Replacement Cost and Depreciated Replacement Cost

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.

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.

The 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.

12. Data Management and Information Systems

The 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.

To this end, the 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.

The 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.
- Xais Asset Management – asset condition modelling
- GIS (as the corporate asset management mapping system)
- Bridge Station – asset condition modelling
- IMTRAC – Information management for traffic controls
- KaarbonTech – asset condition mapping for gullies and trees
- Vaisala – Road AI

13. Maintainability

One of the aims of good asset management is to improve co-ordination between highway improvement and highway maintenance schemes. Considering the cost and implications of maintaining the asset at the design stage will ensure that whole life costs of schemes are optimised. The Highways Asset Management Strategy 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.

The 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.

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.