2. Introduction

2.1. Overview

The highway network is the County Council's most valuable asset. It's crucial for achieving almost all of the Council's objectives, from getting children to school and providing home help for the elderly, to enabling emergency services and delivering services across the county.

Travel is vital to the local economy for tourism and economic development. The highway network is crucial for locals and visitors alike. Unfortunately, its importance is often only recognised when parts become unavailable, and travel is disrupted.

Financial challenges and ever-increasing public expectations/scrutiny mean that we need to be able to demonstrate the processes and priorities which we apply to maintenance of the highway network, and its assets. Severe weather events over the past decade have shown up the fragility of the network and raised awareness of the challenges in maintaining an ageing infrastructure, particularly in relation to flooding/drainage and storm damage.

To keep the network functioning at the highest level possible over a sustained period, maintenance must be carried out across all assets to an adequate level. The inventory of highway assets includes carriageways, footways, drainage systems, verges, structures, street lighting, traffic signals, signs and road markings. In summary, Gloucestershire County Council directly maintains 5,875 km of county roads with a further 218 km of Motorways and Trunk Roads being maintained by Highways England.

Gloucestershire's Road Network (correct at April 2025)	
Road Type	**Length (km)**
Principal A Roads	595
Non-principal B Roads	411
Non-principal C roads	1,574
Unclassified roads	3,295
Total maintained by GCC	**5,875**
Trunk road	101
Motorways	117

This Transport Asset Management Plan (TAMP) is a supporting document to the Council's Local Transport Plan (LTP), and this update incorporates changes to the LTP, which was last revised in August 2023. The TAMP is a "living" document; where some sections will be updated on a regular basis (such as the Inventory and Data sections and appendices) and other areas will be developed as our strategies for different asset types are established based on the funding available.

2.2. Highway Assets in Gloucestershire

Maintaining the highway network requires us to recognise it as an engineering structure and we need to know details about our assets, such as inventory, condition, construction, materials, and service history. This information, called highway asset inventory and condition data, helps in making informed maintenance decisions around the following assets:

Asset	Description
Carriageways	Principal, non-principal classified and unclassified road surfaces
Footways and Cycleways	Surfaced footways and cycleways (including segregated cycleways and multi-user paths)
Public Rights of Way	Footpaths, Bridleways, Byways and Restricted Byways
Structures	Bridges, footbridges, culverts, subways, gantries, steps, retaining walls and earthworks
Drainage	Gullies, grips, carrier drains, ditches and other related highway drainage assets
Street lighting	Streetlights, lit bollards and other highway lighting assets such as illuminated signs and reflective traffic bollards.
Signs and road markings	Signs, lines, bollards, road studs and other road markings
Traffic control systems	Traffic lights, vehicle activated signs, variable message signs and other traffic control systems including Vehicle Activated Signs
Verges	Highway land adjoining roads
Trees	Highway trees
Ancillary assets	Gates, Cattle grids, safety fencing and various others
Geotechnical “assets”	Sites of known geotechnical failure/susceptibility which are causing damage, or have the potential to cause damage to highway assets

2.3. Role and development of the Transport Asset Management Plan

The TAMP is aligned to the national policy associated with the maintenance of the highway network: the Code of Practice for Well Managed Highway Infrastructure. Gloucestershire makes every effort to meet national standards where possible. Where this isn’t possible or appropriate due to local circumstances or funding limitations, a practical, common sense, evidence based and risk assessed approach has been taken.

2.4. Application of Asset Management Principles

There is a challenge facing local authorities in balancing conflicting pressures when deciding their road maintenance strategies. Applying asset management principles will, through evidence, help Gloucestershire resist (as much as possible) reacting to short-term pressures in favour of highway asset maintenance strategies that are forward looking. This will enable us to make decisions that are:

- Cost-effective, by minimising whole-life costs and maximising value for money;
- Timely, so that they can react to competing and changing service demands; and
- Transparent, to justify spending decisions (particularly when resisting short-term demands).

Further details can be found in our Highways Asset Management Policy and our Highways Asset Management Strategy.

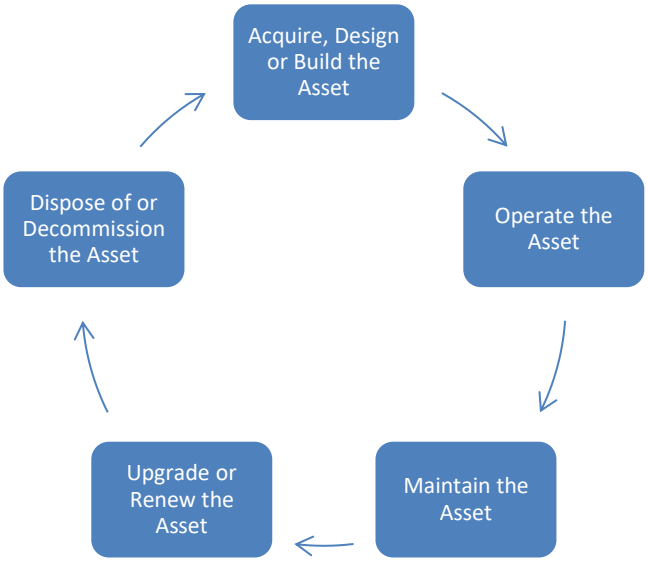
2.5. Asset Management and Road Maintenance

Apply asset management principles over the life cylce our our assets allows for timely interventions, maintaining conditions proactively and economically.

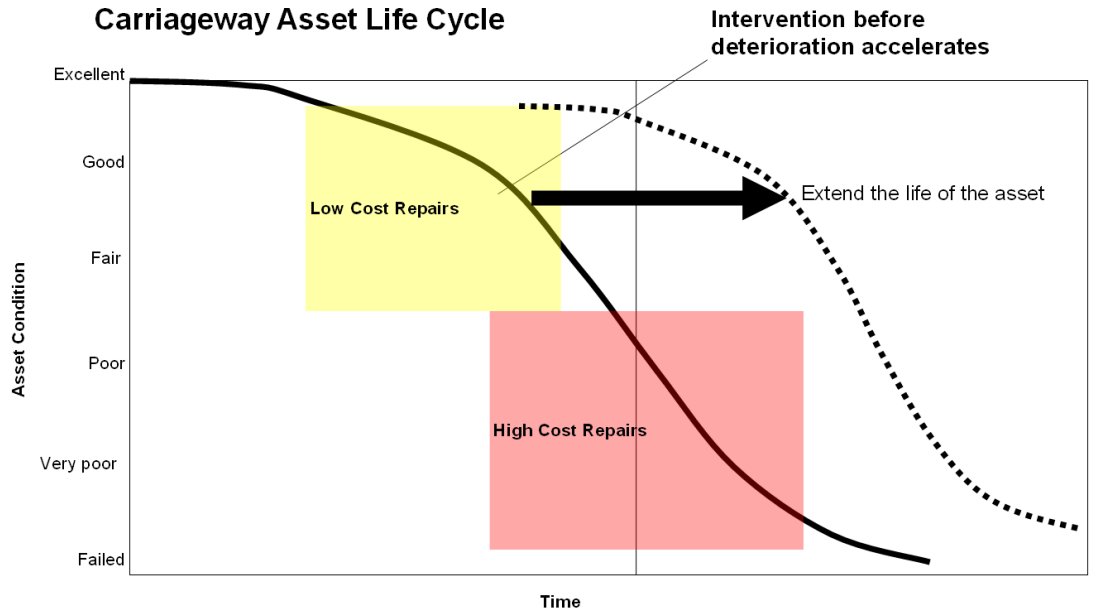
Road maintenance spending can be prioritised in two ways:

- **Worst first**: Repairing the poorest roads, which is costly and short-term focused, leading to fewer treated roads.
- **Whole-life cost**: Minimizing lifetime maintenance costs by funding preventive works, improving long-term satisfaction, reducing defects, and treating more roads.

Local influences often lead councils to the "worst first" approach, aiming to satisfy immediate public demands rather than addressing long-term network health.
Life Cycle Delivery of an asset can be illustrated as follows:



Lifecycle Planning is a mechanism which enables links to be made between a particular asset, levels of service, current condition, maintenance needs and funding provisions. The graph below illustrates the financial benefits of intervening at the right time in a road's life cycle. Roads deteriorate over time depending on the volumes of traffic they carry and the envronmental conditions they are subject to (weathering). A road can often be cheaply restored to 'nearly new' condition and its life extended by intervening at the right point in the life cycle. As roads deteriorate further more expensive intervetions may be required to restore the road to nearly new condition. Allowing roads to deteriorate below the failure threshold therefore represents poor value for money.



2.6. Drivers for Asset Management

Authorities are encouraged to develop asset management practices in response to, for example, the following:

- The Local Transport Plan (LTP).
- Relevant Legislation and Government Strategies.
- Industry Guidance and Codes of Practice.
- Various Funding 'streams' which allow local authorities to assess their performance of using asset management in a highways maintenance capacity.
- International Standard ISO 55000. This standard covers the basis for sound asset management.

2.7. The Benefits of Asset Management

The adoption of asset management practices will make more efficient use of available resources, delivering value for money and providing a service that is aligned to its customers. This is demonstrated by:

- Alignment of the Council's objectives with delivery of the service.
- A comprehensive understanding of the assets and the associated liability.
- A programme of inspections and surveys to record current asset condition.
- Defined Levels of Service.
- Adoption of a lifecycle approach to the management of the asset.
- Explicit identification and management of risks.
- Evidenced based decision making, considering the current condition and how to maintain the asset.
- Demonstrating the consequences of funding decisions.

2.8. Key Stakeholders

Highway asset management is a way of running the 'business' of operating a highway network. The overarching goals and objectives of the authority, as outlined in the Corporate Plan, Local Transport Plan and other Council policies, must guide the development of asset management processes and plans.

A clear asset management approach to highways maintenance helps the Council to deliver its asset management objectives. The key stakeholders are Councillors, Officers and communities. Other stakeholders include the users of the highway network, such as

residents and council taxpayers, drivers, pedestrians, cyclists, bus operators and taxi operators. There is also a need to consider local and through traffic, visitors, emergency services, parish and district councils, schools, hospitals, businesses, developers, haulage associations, public transport operators and their routes.

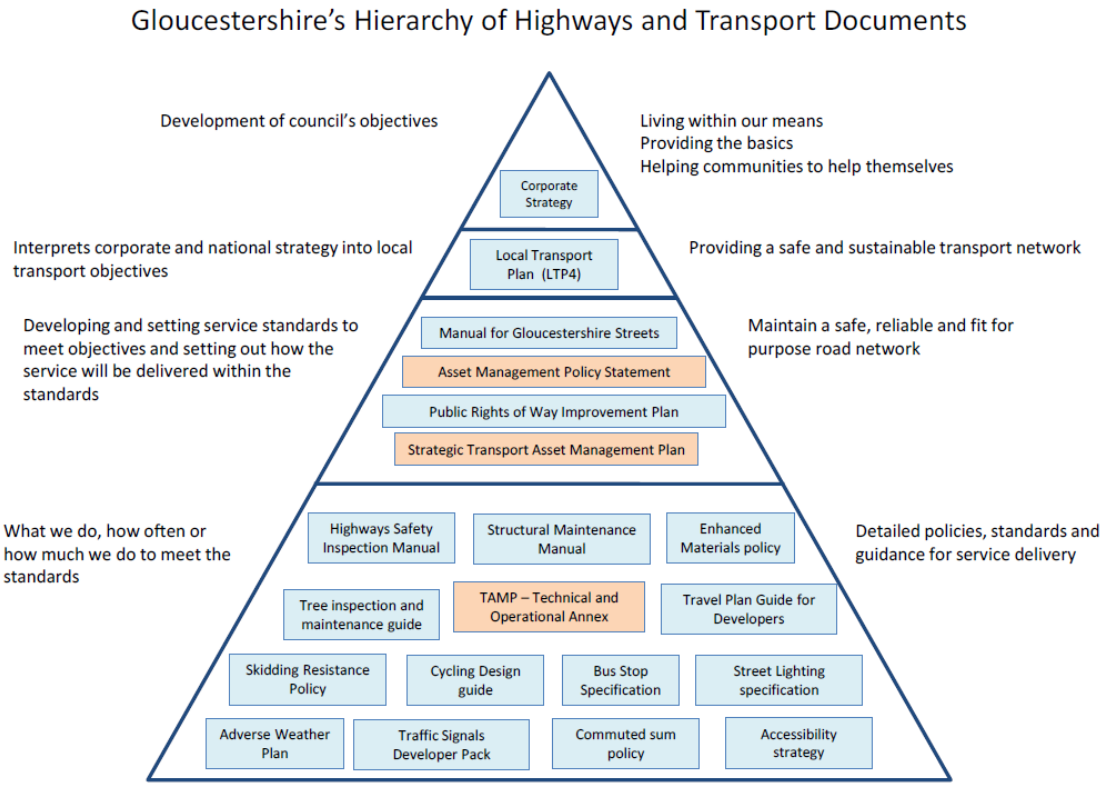
2.9. Vision, Objectives and Linkages to Council Plans and Policies

Effective management of the local road network is essential in delivering Gloucestershire County Council's vision:

"to make the most of all that Gloucestershire has to offer, help improve the quality of life for every community, support businesses to be successful and make sure the county is a place where people want to live, work and visit".

Taking an asset management approach will help us achieve the Local Transport Plan objectives and support the delivery of the Council's Strategy. The TAMP also has strong linkages to the Manual for Gloucestershire Streets (MfGS) which specifically sets out the design standards for developers to follow when constructing infrastructure for the county to adopt.

The diagram below shows how the TAMP, fits into the overall hierarchy of highways and transport policy and strategy documents.



2.10. Legal Framework and Responsibilities

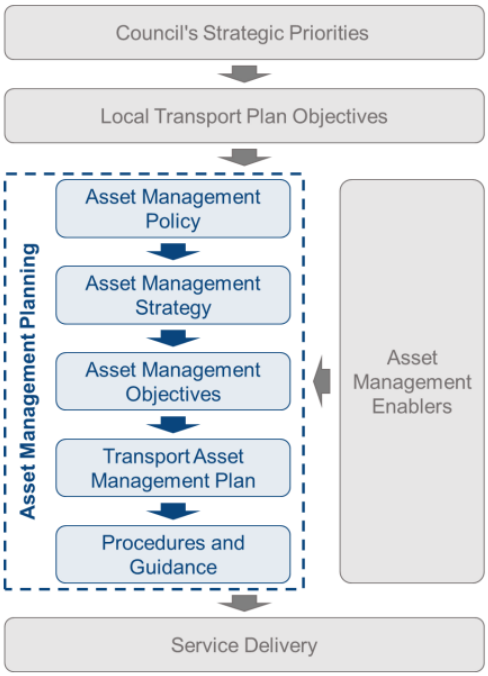
There are several specific pieces of legislation which provide the basis for powers and duties relating to highway maintenance as follows (not an exhaustive list):

- **The Highways Act 1980** sets out the main duties of highway authorities in England and Wales and in particular Section 41 imposes a mandatory duty to maintain all highways classified as maintainable at public expense.

- In 2006 revisions to the **Highways Act** were made in order to cover the matter of access rights to public rights of way as set out in the **Natural Environment and Rural Communities Act 2006**.
- **The New Roads and Street Works Act 1991** sets out the duties of street authorities to co-ordinate and regulate works carried out on the highway.
- **Traffic Management Act 2004** – This act requires authorities to coordinate road works and sets specific process standards and time scales for communications around programmes of work.
- **The Road Traffic Act 1988** provides a duty for highway authorities to promote road safety.
- **The Road Traffic Regulation Act 1984**, and the Traffic Signs Regulations and General Directions 2016 specify the requirements for traffic regulation orders and use of approved signs.
- **The Health and Safety at Work Act 1974**, together with the Management of Health and Safety at Work Regulations 1992 and Construction (Design and Management) Regulations 2007, require highway, traffic and street authorities to carry out work in a safe manner and establish arrangements for the management of construction works.
- **The Transport Act 2000**, under which a local traffic authority may designate any road as a quiet lane or a home zone, and in addition introduces a power for authorities to charge Utilities for the occupation of road space during works.
- **The Local Authorities (Transport Charges) Regulations 1998** provide a power for highway authorities to impose a charge in respect of a number of their largely regulatory activities, including skip, hoarding or scaffolding licences, and the clearance of accident debris.
- **The Wildlife and Countryside Act 1981** provides a framework of legislation relating to environmental and countryside issues.
- **The Environmental Protection Act 1990** provides the statutory basis for other environmental issues and in particular waste management.
- **The Conservation of Habitats and Species Regulations 2017** provides protection for internationally important sites and species.
- **The Weeds Act 1959** provides for notification and dealing with noxious weeds.
- **The Countryside and Rights of Way Act 2000**, requires the Council to write a Rights of Way Improvement Plan.
- **The Railways and Transport Safety Act 2003** addresses the duty on highway authorities to remove ice and snow from roads for which they are responsible.
- **The Environment Act 2021,** places the need for air quality biodiversity and water/waste management in our highways assets and design.

2.11. Process for developing and reviewing the TAMP

The asset management planning process (including the TAMP) is presented below; this is a process that considers Strategic Priorities and Objectives as well as 'Enablers' such as available budget, current performance, asset condition, future projection, risks and forecast demand.



2.12. Asset Management Group

The officers below form the Asset management group, they report to the highways senior management team and are tasked with promoting and ensuring best practice asset management is maintained throughout the network and its assosiated assets either via GCC directly or through its contractors.

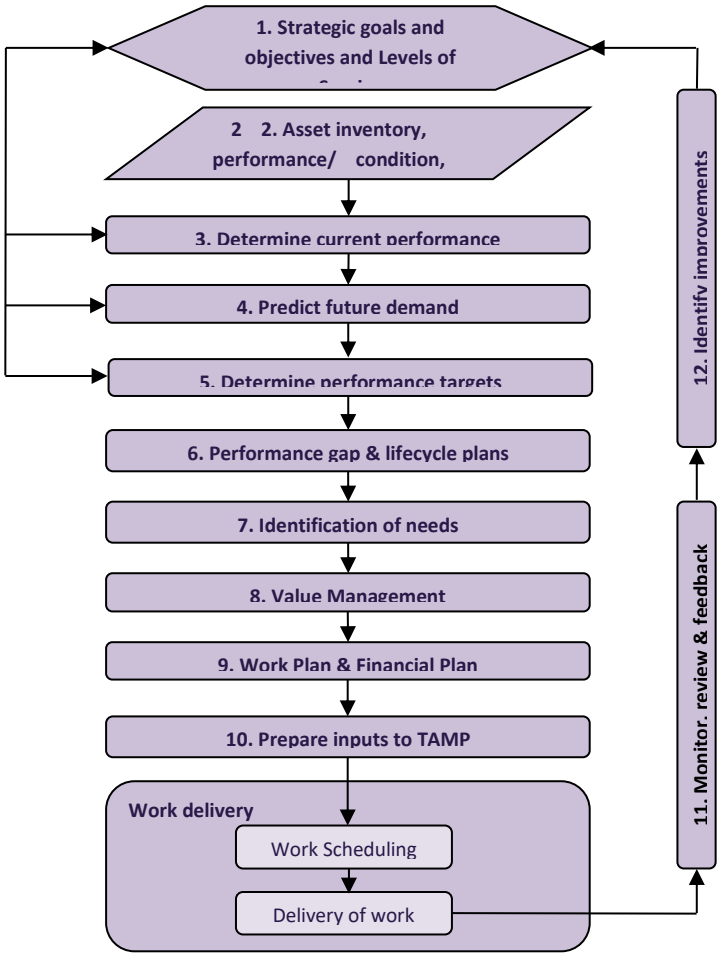
Area	Lead
Overall	Highways Asset & Business Manager
Operations	Highways Operations Manager
Carriageways, Footways, PROW and Cycleways	Contract Service & Structural Maintenance Manager Senior Asset Data Officer
Street Lighting and Illuminated signs	Street Lighting Manager
Structures & Drainage	Highways Infrastructure Lead
TMA and Traffic Signals	Network Manager

The Group considers:

- Data: inventory, condition, data gaps and collection, storage and access
- Asset Management Systems:
- Life Cycle Planning: for asset groups and sub groups
- Revisions required to the TAMP
- Valuation: Whole of Government Accounts requirements
- Communications/ Reporting
- Training
- Any future Asset Management issues (for example Electric Vehicle charging points)

2.13. TAMP Monitoring and Review

The TAMP is a dynamic document that requires regular reviews to update work programs and financial plans based on new data, conditions, financial provisions, costs, and expectations. It is crucial to monitor and review the performance of the asset management regime to identify and address any shortfalls in expected performance promptly, ensuring targets are met. By learning from mistakes, amending processes, and proactively using this information, the plan can be continuously improved.



2.14. Performance Measures

Collecting data solely for performance measurement should be discouraged, as it is an inefficient use of resources. Instead, efforts should be directed towards identifying effective performance measures from the collected information.

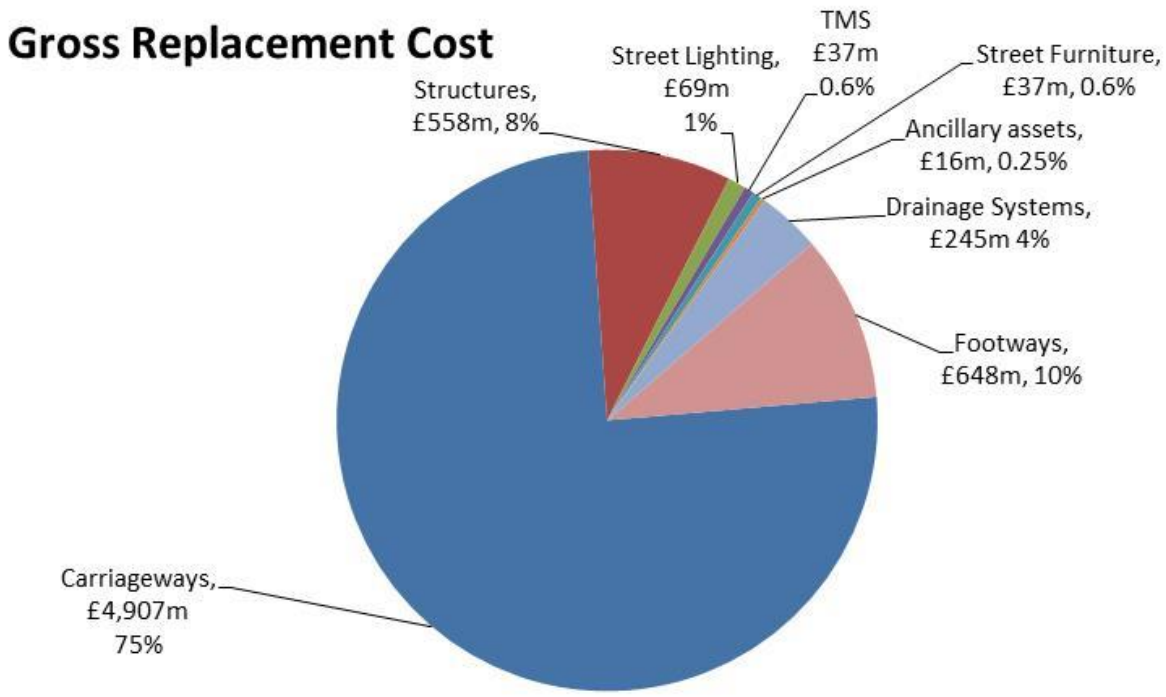
To maximise the impact of performance monitoring on an organisation, it is crucial that it is 'owned' by the staff. Involving employees in setting performance measures helps them understand how their actions influence the organisation and its goals.

2.15. Valuation

Under the previous TAMP (Chapter 8 - Valuation) the Gross Replacement Cost (GRC), Annual Depreciation (AD) and Depreciated Replacement Cost (DRC) was detailed as follows:

GRC	Cost of replacing the asset (with a modern equivalent asset)
AD	Cost of all capital treatments required to restore full service to the asset spread over the number of years considered in the lifecycle
DRC	Gross Replacement Cost – total Depreciation (Represents the net current value of the asset.)

The GRC and DRC calculation for the asset differs from the Standstill and Backlog Costs (as detailed against each of the Assets in Appendix 2). At the last time of calculation, December 2016 (in line with the CIPFA guidance), the highways asset was valued at a GRC of £6.52 Billion with a DRC of £5.84 Billion. This can be broken down as follows:



As of April 2025, it is not known if these three calculations will be required under any future DFT incentive requirements or whether CIPFA guidance will be updated.