
1 Executive Summary

Gloucestershire has been using asset management principles to run the business of operating the highway network for many years. Nationally, Asset Management is recognised as the best way to deliver a value for money service over the life of the highway asset. The UKRLG has produced a new Code of Practice for Well Managed Highway Infrastructure Assets, which refers very closely to the HMEP publication Highway Infrastructure Asset Management Guidance (HIAMG)

Gloucestershire now has a framework of documents for Asset Management; a short Policy Statement, and a Strategic Plan, which includes the individual asset strategies and levels of service, and this Operational Annex, referred to as the TAMP. The Strategic Plan was consulted on as part of the Local Transport Plan (LTP3) consultation, and was adopted by full council in 2016. The Policy Statement was revised in 2018 to allow for adoption of the Code of Practice for Well Managed Highway Infrastructure Assets, and this was signed off by our Cabinet in June 2018. This TAMP provides the detail as to how the Policy and Strategic Plan will be delivered.

The TAMP has been produced as a series of chapters, which are published separately for ease of editing. The chapters are:

- Inventory and Data,
- Levels of Service,
- Service Delivery,
- Life Cycle Plans,
- Forward Programme
- Asset Valuation.
- Risk Management
- Climate Change

Inventory and Data

Asset inventory is the foundation stone on which asset management processes are to be built. It is only when appropriate inventory and condition data is available to all staff involved in the process that an overall view and consistent management approach can be achieved.

The following table lists the main highway assets:

ASSET TYPE	ASSET GROUP
CARRIAGEWAYS	Principal, Classified, Unclassified
FOOTWAYS/CYCLETRACKS	Footways, Pedestrian Areas, Footpaths, Cycletracks
STRUCTURES	Bridges, Culverts, Footbridges, Retaining Walls
HIGHWAY LIGHTING	Lighting Columns/Units, Heritage Columns, Illuminated Bollards, Illuminated Traffic Signs

STREET FURNITURE	Non-illuminated Traffic Signs, Safety Fences, Non-illuminated Bollards, Pedestrian Barriers, Other Fencing/Barriers, Bus Shelters, Grit Bins, Cattle Grids, Trees, Verge Marker Posts
TRAFFIC MANAGEMENT SYSTEMS	Traffic Signals, Pedestrian Signals, Zebra Crossings, Vehicle Activated Signs, Information Systems, Safety Cameras, CCTV Cameras, ANPR Cameras, Real Time Passenger Information, Automatic Traffic Counter Sites
DRAINAGE SYSTEMS	Gullies, Balancing Ponds, Catchpits, Counterfort Drains, Culverts, Filter Drains, Grips, Manholes, Piped Grips, Pumping Stations
ANCILLARY ASSETS	Public Rights of Way & Bridges, Verges, Laybys, Car Parks (Park & Ride Sites),

Levels of Service

Chapter 4 details the county's current performance against its service standards. A set of simplified Service Standards have been developed that clearly link with corporate and LTP3 objectives and themes. These statements are captured in the Strategic TAMP and represent the baseline or fundamental service aimed at delivering a road network which is as safe, reliable and as fit for purpose as possible within current funding and resource constraints. Measuring and monitoring how well the authority is meeting these basic service standards is key to continual asset management improvement.

Levels of service describe the quality of services provided by transport assets for the benefit of customers. They are composite indicators that reflect GCC's social, economic and environmental goals. Levels of service therefore, in terms that can be measured and evaluated, reflect how GCC, as the highway authority, engages with customers and responds to their needs.

Service Delivery

Chapter 5 outlines the arrangements by which we deliver the maintenance of our different assets, including our service structure and the different maintenance contracts that we have with Amey, Skanska, Telent and Tarmac.

Life Cycle Plans

The purpose of a life cycle plan is to document how a particular asset is managed and to identify current and future needs in terms of predicted works and anticipated funding need and related to the level of service required or that can be afforded.

Life cycle plans consider the condition of the asset and assess its future performance by considering available monies, agreed risk and investment policies. From this information it is possible to develop the works programmes and strategies that are necessary to achieve the specified levels of service.

Ideally, life cycle plans present a record, from creation to disposal, of available asset information and cover key work activities used in the management of a highway network:

- **Operations and maintenance of the asset:** Activities undertaken to ensure the efficient operation and serviceability of the asset, typically referred to as routine maintenance. Routine maintenance activities are revenue funded and are either reactive, such as pothole repair and white line replacement, or cyclical such as gully emptying and grass cutting. Of the estimated £14m of revenue expenditure on highway services, over 2/3^{rds} is spent on routine maintenance activities.
- **Renewal or replacement of the asset:** Provision for progressive replacement of individual assets that have reached the end of their useful life and cannot be sustained by routine maintenance alone. Typically referred to as structural maintenance these activities are funded by capital expenditure and include reconstruction, overlay, resurfacing and surface dressing of carriageways or footways, remedial earthworks and replacement of highway drainage systems, i.e. pipe-work, manholes, etc, or major repairs to these systems. Approximately £18m a year of capital funding is spent on renewal or replacement of assets across the county.

For most of the key assets (carriageways, footways, bridges and highway lighting) the development of the life cycle plan is simply documenting current practices. Life cycle plans for some assets are less developed and will continue to evolve as the TAMP is updated. As Gloucestershire faces significant revenue funding pressures over the next four years it is critical that life cycle plans are adjusted to reflect the impact of reduced revenue expenditure on the long term planning and potential impacts on capital funding for the future.

A summary of the life cycle plans for each asset type is provided in chapter 6 and detailed life cycle plans including how routine maintenance activities are under taken can be found in Appendix 2.

Forward Programming/Prioritisation

With good quality condition data available for analysis and sound life cycle plans in place, it is possible to predict the likely future maintenance schemes and their locations. Gloucestershire prepares a three year forward works programme based on the evaluation and ranking of alternative improvement projects and maintenance treatments.

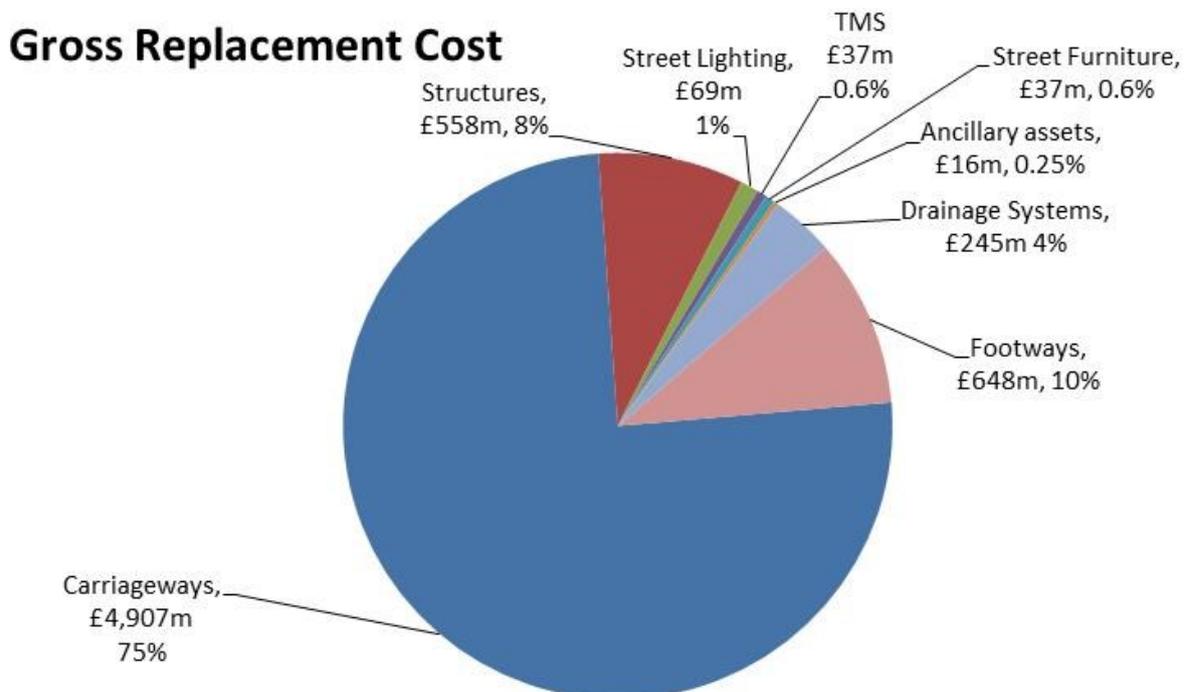
The first year of the three year programme is a delivery plan. The second and third years of the programme are indicative and allow members to see which schemes are likely to be built in the future.

The County uses different prioritisation systems to programme work for different asset types. The prioritisation process varies depending on the type of scheme but fundamentally involves an assessment of need and cost benefit analysis as well as customer satisfaction. Chapter 7 describes how structural maintenance schemes, bridge schemes and other improvement schemes are prioritised.

Valuation

In order to demonstrate that we are achieving value from the highway asset, we calculate two values every year; The Gross Replacement Cost (of a modern equivalent asset) and the Depreciated Value, which represents financially the value of the asset in its current condition, indicating how much of the original asset value has been “spent”. We use a mixture of national and local rates, and centrally provided toolkits to generate these values. Chapter 8, and Appendix 3, contain more detail about this. The following table shows the Gross Replacement Cost of the Highway Network Asset as calculated in April 2016, it is also shown graphically below:

Group	Gross Replacement Cost £
Carriageways	4,907,148,524
Footways and cycletracks	648,290,000
Structures	558,268,376
Highway lighting	69,876,840
Street furniture	37,188,211
Traffic management systems	37,090,661
Drainage	245,456,476
Ancillary assets	16,486,000
Total Estimate	6,519,805,088



Managing Risks

Managing risk is an integral part of the management of the highway asset. All activities from management, identification and prioritisation of works to the establishment of budgets have risks associated with them. Ideally, risks should be identified at each level of the management hierarchy (strategic, tactical and operational) using tools and procedures to identify critical risks and then manage them. Gloucestershire has developed risk management guidance with 'A Practical Guide to Risk Management in Gloucestershire County Council'.

There are key risks which threaten the sustained delivery of the Transport Asset. These are identified as

- Funding Cuts
- Aging Infrastructure
- Climate Change
- Future Demand
- Network Resilience

More detail about these risks is given in Chapter 9.

Climate Change

Because climate change is recognised as being a significant challenge to affect the highway asset, and in response to the Transport Resilience Review 2014, we have created a new chapter 10, in the TAMP to deal specifically with climate change and resilience.