

# **Highways Infrastructure Asset Management Strategy**

## Gloucestershire County Council

### June 2024

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**HIGHWAYS**

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# Foreword



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**June 2024**

I am pleased to present our new Asset Management Strategy. Gloucestershire County Council is committed to embedding the key principles of Asset Management into our service delivery.

The highway network is our most valuable asset as it is key to achieving nearly all of our corporate objectives, providing the means by which children get to school, the elderly receive home help, waste is transported, and how our staff deliver services all around the county. As a Highway Authority we are responsible for maintaining the highway network which includes roads, bridges, pavements, cycle ways and footpaths.

We are committed to managing highway network in line with the principles set out in our Asset Management Policy and thus achieve our long-term corporate objectives, such as delivering statutory obligations, addressing stakeholder needs and ensuring the overall performance of our assets.

We will implement this strategy by working in partnership delivery partners and other stakeholders, working together to provide mutual benefits

# Purpose of this strategy

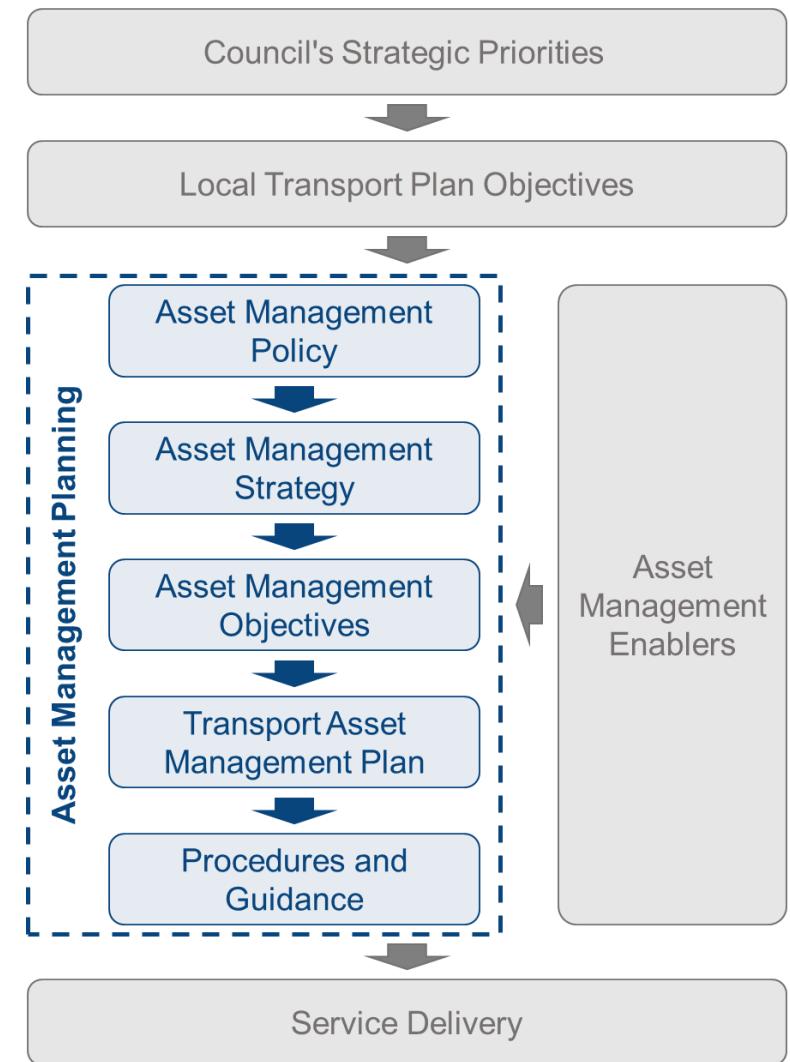
**This strategy sets out how we use asset management to meet our long-term corporate objectives, including statutory obligations, stakeholder needs and the overall performance of our assets.**

The purpose of this strategy is to set out how we will deliver the principles of our Asset Management Policy and thus achieve our long-term corporate objectives, such as delivering statutory obligations, addressing stakeholder needs and ensuring the overall performance of our assets.

We have been developing and implementing our asset management principles for highway infrastructure over a number of years. This strategy builds on the progress we have made to date and provides the basis to further develop our asset management processes to achieve greater efficiency and value for money whilst working to deliver Gloucestershire County Council's (GCC) objectives.

It outlines how asset management principles are adopted by our highways function, but also provides a look forward to how we will grow and mature our capacity and capability further.

The strategy expands on the principles laid out in our Asset Management Policy and sets out the strategic framework for managing all our major highway assets – the diagram on the right shows where the Asset Management Strategy sits within this framework.



Benefits of implementing this strategy include:

- » Support the delivery of GCC's strategic priorities
- » Establish clearly defined and achievable service standards
- » Formalise investment strategies for each asset class
- » Enhance understanding of our stakeholder needs
- » Improve access to information and services
- » Increase adoption of innovative techniques in the maintenance and operation of our highway network
- » Provide a more resilient highway network
- » Support national and local strategies on carbon reduction and climate change
- » Drive continual improvement in the management of our highway assets

## Forward look

We will regularly review and update our Asset Management Strategy to ensure it continues to be aligned to all relevant Council objectives and policies, and government requirements, as these evolve over time.



# Gloucestershire's highway network

**The highway network is our most valuable asset in terms of both financial and socio-economic value. We have a duty to maintain it so that it can serve all of Gloucestershire's road users.**

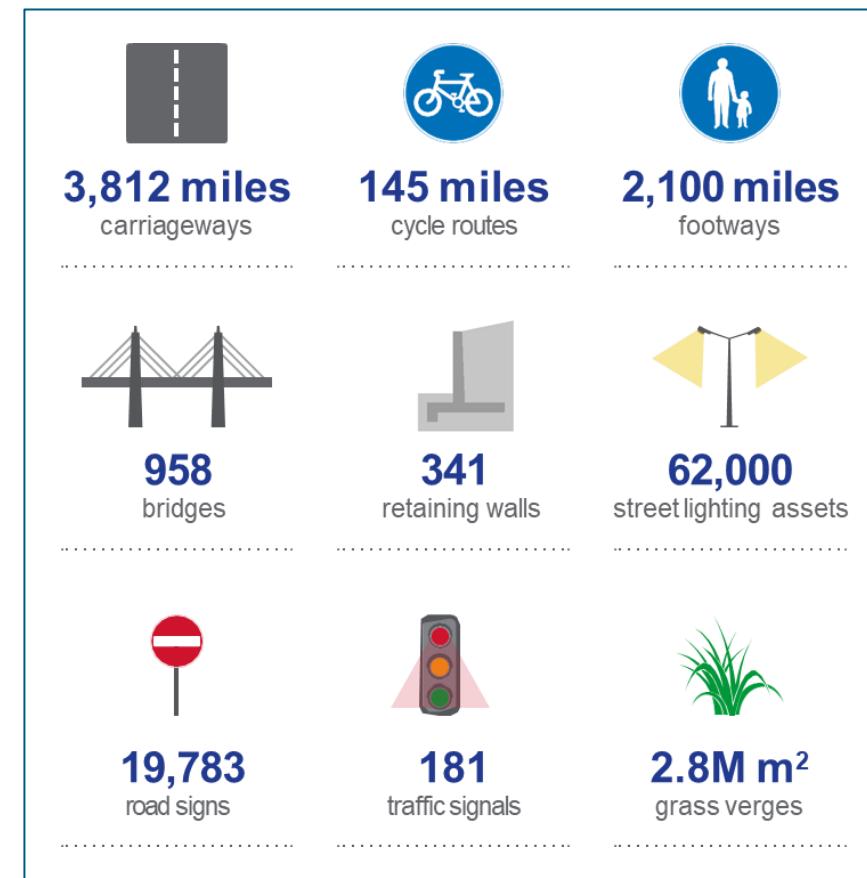
## Our assets

The highway network is our most valuable asset, valued at over £7bn. It is key to achieving nearly all of our business objectives, providing the means by which children get to school, the elderly receive home help, waste is transported, and how our staff deliver services all around the county.

However, the highway network has a wider social value above the gross replacement cost. Travel is an integral part of the local economy in relation to both tourism and supporting economic development; as a rural county, we are dependent on our highway network for the movement of people and goods. When parts of the network are compromised by weather events, unplanned network repairs or major incidents, the impacts can be significant.

Well maintained local roads allow for safer and more reliable journeys, boosting local businesses and serving all road users. High quality local roads are also central to the future of transport, playing an important role in people taking up greener forms of transport such as cycling and buses.

We will continue to work with specialist bodies, such as the Environment Agency, our delivery partners, National Highways and local communities, to ensure that the highway network and the communities, trade and commerce that it serves, are protected in terms of network risk and resilience.



## Delivering our core functions

As a Highway Authority we are responsible for:

- » Maintaining the highway network which includes roads, bridges, pavements, cycle ways and footpaths.
- » Maintaining all highway assets including road and pavement surfaces; bridge structures; street lights; traffic signals; gullies and drainage systems; verges and trees; bollards and street furniture; signs and road markings; highway retaining walls etc.
- » Delivering new or adopted highway infrastructure to help deliver the Council's objectives.
- » Providing an interface between the Council and the public, parish and town councils and members, providing 24-7 response to highway emergencies.

We understand the benefits of asset management and are proactively taking steps to further embed asset management into our processes. Our approach to managing the network is fully endorsed by our senior decision makers who receive regular reports and updates on strategic asset management issues. This also extends into our delivery partners and supply chain, who are ultimately responsible for maintaining the network and delivering improvement works.

We have several contracts in place to enable us to undertake the necessary works and deliver services.

- » Ringway: provision of highways maintenance services
- » Tarmac: provision of resurfacing works
- » Milestone: provision of street lighting maintenance services
- » Telent: provision of traffic signals maintenance services
- » AtkinsRealis: provision of highways consultancy services

In 2021 we obtained ISO44001 accreditation for our collaborative business arrangements with our Tier 1 providers, AtkinsRealis and Ringway.



## Forward look

We will continue to support the Council's ambition of a well-maintained road network which serves all of Gloucestershire, creating a more resilient network, and supporting reliable journeys which help boost local businesses.

We will contribute to achieving a greener Gloucestershire by continuing to reduce our carbon emissions to help reach net zero and lead by example by putting climate change at the heart of decisions and partnership working.

We will work closely with the communities across the county to gain an understanding of socio-economic benefits of maintaining and regenerating the highways network.



# Why asset management

**Asset management is a continual process of leadership, planning and decision-making that will enable us to achieve our objectives and deliver value to stakeholders in a consistent and structured way.**

The Gloucestershire highway network covers over 3,800 miles and is composed of a multitude of diverse assets which need managing. Our asset management approach helps us understand the value of our network and the costs linked with maintaining it to different potential standards to help manage deterioration and maintenance backlogs.

Our asset management processes allow us to identify all the assets in the network and establish their current condition to develop a framework for effectively managing them. Asset management also enable us to understand the future needs of the network and prioritise the funding available to meet those needs.

The suite of strategic documents consists of an Asset Management Policy, Strategy, and Transport Asset Management Plan (TAMP). These documents have been developed using good practice for asset management, including guidance such as the UK Roads Leadership Group (UKRLG) Highway Infrastructure Asset Management Guidance (HIAMG); and Code of Practice, plus the Chartered Institute of Public Finance and Accounting (CIPFA) Code of Practice on Transport Infrastructure Assets.

## Benefits of Asset Management

- ✓ Formalises and documents standards and processes
- ✓ Helps us provide an informed response to budget pressures
- ✓ Records what assets we have and their condition
- ✓ Enhances understanding of infrastructure age, condition and associated risks
- ✓ Leads to consistency of practices
- ✓ Provides an audit trail
- ✓ Assists with managing public expectations
- ✓ Acknowledges that future spending requirements are not always the same.

## Our vision and values

GCC's vision is 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. The Council Strategy sets out Gloucestershire's priorities (those in bold are the ones most notably supported by this strategy):

- » **Tackling climate change**
- » **Improving Our Roads**
- » **Sustainable Growth**
- » **Levelling up our Communities**
- » **Securing Investment for Gloucestershire**
- » Transforming Children's Services
- » Transforming Adult Social Care
- » Transforming Gloucestershire Fire and Rescue Service
- » **Improving Customer Experience**

To support the delivery of these priorities, the latest Local Transport Plan sets out the following long-term objectives to support the Gloucestershire County Council vision:

- » Improve community health and wellbeing and promote equality of opportunity
- » Support sustainable economic growth
- » Enable safe and affordable community connectivity
- » Protect and enhance the natural and built environment

**Our plans for maintaining our roads are built upon the following four key principles set out in our Asset Management Policy:**

*We will keep people and goods moving and help our economy*

- › Implement the right treatment at the right time
- › Take a coordinated approach to maintenance activities
- › Manage the highway network to minimise congestion and to prioritise movement for all users

*High levels of satisfaction with roads*

- › Improve information on service delivery, making it easier to report and track progress
- › Meet customer expectations whilst remaining economically efficient
- › Deliver services to the standards we set out to achieve

*Be at the forefront of highways technological transformation*

- › Utilise technology to improve the delivery of our services
- › Improve our knowledge and understanding of the assets
- › Use technology to ensure that our transport network prioritises active travel and public transport

*More efficient use of resources and more use of sustainable energy*

- › Reduce demand for reactive services, particularly repeat requests
- › Minimise the energy use across our highway assets
- › Identify our carbon use and work to reduce or offset it
- › Drive value for money through lean review

## Asset Management Objectives

Our objectives reflect our responsibilities when implementing our Asset Management Policy, and thus our strategic objectives and Local Transport Plan commitments. These objectives will guide our decisions and actions in operating and maintaining the network.



**Safe and reliable service** – Provide a local road network that is safe and delivers consistent and predictable journeys for all users, including increased volumes of active travel users.



**Customer focus** – Engage with road users, local communities, and wider stakeholders, to listen to and consider their needs and expectations, and to communicate in an open and accessible way.



**Resilient network** – Ensure continuity of vital services, manage risks and adapt the network to the impacts of climate change.



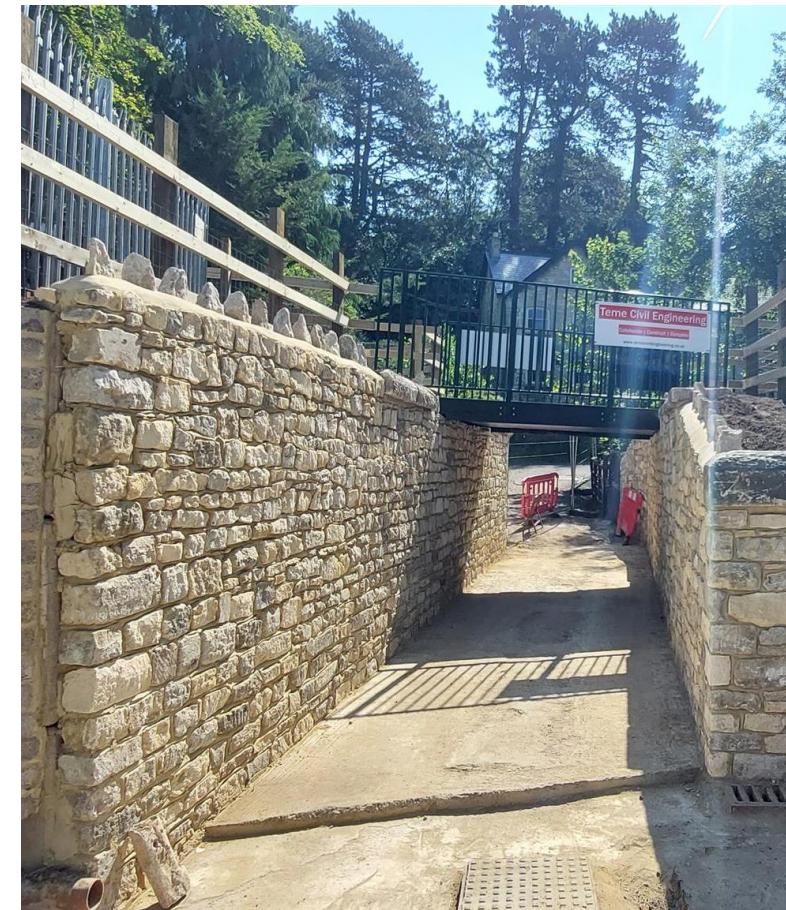
**Greener Gloucestershire** – Support decarbonisation of transport, enhance the natural environment and biodiversity, and reduce energy use and waste.



**Digital transformation** – Innovate and apply technology to improve the customer experience and to manage the network using a data-led approach.



**Value for money** – Ensure an efficient use of the available resources for the management of the local road network to support Gloucestershire's sustainable economic growth.



## Our stakeholders

It is important to consider the needs and requirements of all our users and stakeholders when setting our asset management objectives and processes. This is especially important where there might be conflict between different stakeholder needs. We consider our users and stakeholders to be any individual, group or organisation that can be affected by our management of Gloucestershire highway network.

Examples of some of our stakeholders and their requirements are included in the table to the right.

## Forward look

We will periodically review our suite of asset management documents.

We will aim to engage further with our key stakeholder groups to ensure that all their needs and expectations are considered in our asset management processes.

We will develop a communication strategy to ensure there is continuous communication with all our stakeholder groups; we are committed to improving the customer experience when reporting highway issues.

Stakeholder type	Needs and expectations
Gloucestershire County Council members	<ul style="list-style-type: none"> <li>Support the delivery of the Council's strategic priorities and the Local Transport Plan objectives</li> <li>Endorsing the Asset Management Policy</li> </ul>
Delivery partners and supply chain	<ul style="list-style-type: none"> <li>Responsible for the delivery of maintenance works on the network, they are one of the main point of contacts with the road users</li> </ul>
Road users	<ul style="list-style-type: none"> <li>Safe and reliable journeys</li> <li>Well maintained roads which create a more resilient network</li> </ul>
Active travel users	<ul style="list-style-type: none"> <li>Right type of infrastructure, without barriers or obstacles to ease of use to allow safe and reliable journeys for non-motorized users</li> </ul>
Local businesses and communities	<ul style="list-style-type: none"> <li>Provide sustainable transport solutions to help reduce inequalities, regenerate high streets, market towns and neighbourhoods, and improve road infrastructure</li> </ul>
Adjacent Local Highway Authorities	<ul style="list-style-type: none"> <li>Work together with National Highways and other Highway Authorities to provide integrated transport solutions</li> </ul>

# Planning to deliver our services

**This strategy helps us to deliver safer, more reliable journeys in a cost-effective manner.**

To minimise long term costs and improve value for money in the services we deliver, we need to prioritise long-term demands over short-term ones. Historically, we have given a greater priority to worst-first which has the biggest immediate impact for road users. But, by implementing an asset management approach, we are now able to plan ahead to prioritise long-term demands and minimise the reactive maintenance work needed.

Gloucestershire has a wide variety of roads and footways, from high volume dual carriageways in congested urban environments to single lane rural roads connecting small farms or villages. It is not possible to maintain every road to a high standard, the maintenance backlog and limited funding available simply make this impossible. Data led asset management is the best way to achieve best value for money across the whole network.

We have developed a specific approach to how we manage each asset class which are set out in the TAMP.



## Lifecycle plans

The purpose of a life cycle plan is to document how a particular asset is managed, identify current and future needs in terms of predicted works and anticipated funding need with reference to the level of service required or that can be afforded. Lifecycle 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. For most of the key assets (carriageways, footways, bridges and highway lighting) we have life cycle plans in place documenting current practice; however, for some assets these are less developed and will continue to evolve as the TAMP is updated. Life cycle plans will need to be updated to reflect any changes on the Council's budget allocation as any increase or decrease in revenue expenditure will have an impact on the long-term planning.



### 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.

### 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, patching 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.

### Forward look

We will continue to review all of the lifecycle plans and combine them with existing maintenance manuals to further develop them into effective maintenance manuals for each asset, so that there is only one reference point for each asset type.

We will use the lifecycle plans to develop investment cases that make the case for appropriate funding to maintain our highway network.

# Delivering our services

**Effective asset management helps us make good decisions by utilising data and having the right resources in place to manage risks and deliver our objectives.**

## Risks & Opportunities

Managing risk is an integral part of the management of the highway asset. Risks should be identified at each level of the management hierarchy using tools and procedures to identify critical risks and then manage them.

- » **Strategic risks** include long term influences such as climate change, and the impact of policy decisions on reputation and ability to deliver services.
- » **Tactical risks** include the impact of reduced public finances, and the impact of insufficient investment on the overall condition of the assets.
- » **Operational risks** are the risks to our staff and contractors when working on the network, and risks to road users.

Risk management processes are the key to maintaining a resilient, safe and effective highway network. We have a jointly managed highways risk register, with our delivery partners which feeds in to, and supplements the Corporate Risk Policy by identifying the tactical and operational risks encountered in the management of the highway assets.

### Key risks to Gloucestershire Highway Network

Funding pressures	Funding for maintaining highway assets comes from revenue or capital budgets. Increased pressure on the Council's revenue funds creates challenges
Aging infrastructure	Road building programmes through the 60's 70's and 80's has led to groups of assets reaching a critical age/condition all at one time
Future demand	One of the key risk management areas for a highway network is in assessing the future demands on the network by all users.
Climate change	Assessing the likely impacts of climate change and how to respond to it is essential, particularly as many transport assets have a long life.
Network resilience	Recent severe weather events across the country have highlighted the susceptibility of an aging transport infrastructure.
Industry skills shortage	Challenges in the recruitment of skilled staff in the construction industry, with over 50% of operatives in the workforce over the age of 50.

## Data, Processes and Tools

### Data

Our asset data describes what highways assets we have, where they are and how they perform. Asset data is essential for effective asset management and drives our decision making, which is why we need to ensure that our data meets appropriate standards.

Data management includes identifying the requirements, collection and processing methods as well as options for disposing of the data when it is no longer needed. Similar to any other asset class, we must ensure that our data is stored securely and safely, has the right level of quality, and that it is up-to-date, appropriate, and complete.

We collect, monitor and measure the following types of data:



#### Financial

budget, spend, forecast, capital and operational expenditure



#### Inventory

number, location, size, type, age of each asset



#### Performance

measurement of the condition of the asset



#### Use

how assets are being used

### Processes

Our processes ensure we are consistent in the delivery of all of our activities reducing the risk to our assets. Having the right processes in place helps us understand how we want to manage and align our data, information, and systems.

### Tools

We manage our data using systems such as AMX and Confirm which allow us to store and process our asset data to make informed decisions on asset investment and report performance in a meaningful way. Advances in technology and processing, including artificial intelligence, will help give us insight and make informed decisions.

## Resources: People and Funding

The current conditions in both the construction sector and in the national/global economy are creating a background of volatility which can affect how we deliver our services. There is a significant shortage of construction workers, combined with supply chain limitations and inflation conditions affecting materials prices. Combined with a more constrained financial position this will bring challenges to the cost of maintaining the network.

### People

There are significant challenges in the recruitment of skilled staff in the construction industry, with over 50% of operatives in the workforce over the age of 50. Our Highway Skills Academy will continue to develop and bring on board new talent. Additionally, succession planning across the teams is vital to ensure that the structure has sufficient capacity and resilience to deliver Gloucestershire's agenda now and in the future.

### Funding

We have various streams of funding which allows us to operate effective asset management across the highway network including capital grants from DfT; Local Enterprise Partnership funding; revenue funding from within Council corporate budget, etc.

However, inflation pressures, aging infrastructure and maintenance backlogs are creating additional pressures within revenue and capital budgets. Climate change also impacts on the rate of deterioration of assets and the frequency of major response incidents.



## Forward look

We will continue to plan for the future to understand workforce requirements and promote our Highway Skills Academy to ensure that our staff have the competences required to successfully achieve their objectives.

We will explore and maximise opportunities for data-led investment in building network resilience and will embrace the opportunities which technology brings with the aim of improving the service.

We will develop a new asset information strategy which will ensure we are collecting and using the right data to mitigate risks in our decision-making process.



# Managing our performance

**Regular review and monitoring of performance is required to successfully deliver asset management and deliver appropriate service to meet our stakeholders' needs.**

## Understanding performance

It is critical that we understand our performance, not only in terms of the condition of our assets and delivery of tasks, but also in terms of the application of our asset management approach and delivery of service to our stakeholders.

This process helps us identify where our performance meets or exceeds expectation so this can be reinforced in how we work, plus it helps us understand where required levels of performance are not being achieved so that corrective action can be taken.

## Measuring performance

We have set out a selection of key performance indicators which are accompanied by a series of service indicators. Measuring and monitoring how well we are meeting these performance indicators is key to continual asset management improvement. The box to the right shows some of our key performance indicators.

### Key Performance indicators

- ✓ % of 2 hour emergency repairs made on time
- ✓ % of 24 hour defects repaired on time
- ✓ % of 28-day defects repaired in time
- ✓ % of principal roads where maintenance should be considered
- ✓ % of Non-principal classified roads where maintenance should be considered
- ✓ % of structural maintenance programme delivered
- ✓ Overall resident satisfaction with Highways Network
- ✓ Number of Winter maintenance runs completed
- ✓ Average number of additional days to complete overdue 28 day defect repairs
- ✓ % of unclassified roads where maintenance should be considered

## Monitoring performance

Different ways of monitoring performance are required for different aspects of our highway asset management approach, with good practice outlining the following processes:

- » **Strategic monitoring** – Assurance that asset management is implemented as intended if strategic objectives are achievable and aligned to wider organisational objectives.
- » **Measures and targets** – Use of metrics to benchmark strategic and operational performance against agreed levels of service.
- » **System audits** – Review of data and insights generated, to understand if data is fit for purpose and whether outputs are reliable and useful.
- » **Compliance monitoring** – The review of performance across the entire supply chain, related to contractual obligations.

## Forward look

We will strive to ensure that we provide a reliable service by delivering against our performance indicators.

Going forward, we will link our performance indicators to our new asset management objectives to gain a better understanding of how we deliver value for money to our customers. We will also underpin this with a principle of driving value for money across services through lean review.

We will also aim to increase our ability to monitor and operate a sustainable network in the face of significant climate change challenges.



# Continuous improvement

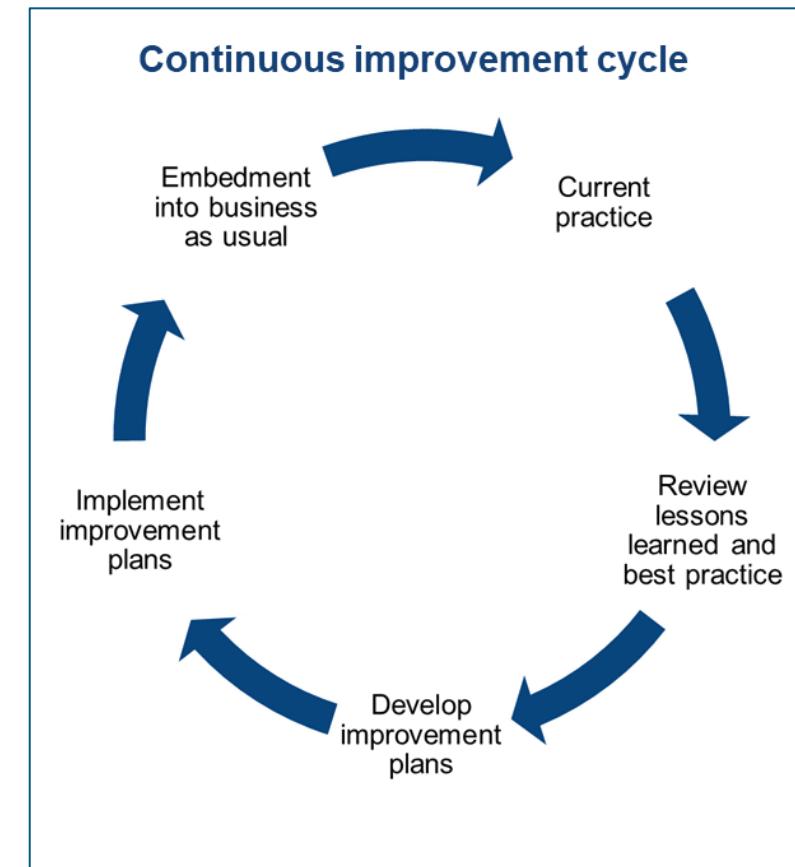
We aim to continually improve our asset management maturity and effectiveness through a systematic quality-based approach.

Effective asset management requires a continuous review of all the processes and practices that are being undertaken. This not only adheres to international best practice, but also ensures that our processes are up to date and that the needs and demands of all of Gloucestershire's road users are being met.

To continually improve our asset management processes, we will:

- » Regular review our asset management activities, documentation and processes.
- » Ensure our staff have the right asset management competencies.
- » Establish appropriate channels of communication are in place to communicate with each of our stakeholder groups.
- » Review how we use our data to generate value and provide insight as to how to effectively operate, maintain, renew, and improve the highway network.
- » Improve our understanding of our customer's priorities to increase customer satisfaction and ensure the needs of all users are being met.
- » Adopt a culture of continual evaluation and improvement where we regularly review the risks and opportunities to our assets.

This will create a roadmap for asset management improvement, over the short, medium and long term.



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