



# Monmouthshire County Council Highway Asset Management Strategy

Our Vision: Sustainable & Resilient Communities

## Background

This document forms our Highway Asset Management Strategy (HAMS) which will set out how Monmouthshire County Council will manage its highway infrastructure assets and network taking into consideration customer needs, local priorities, asset condition and best use of available resources.

This strategy will then be used to inform the highway maintenance schemes that are to be implemented within Monmouthshires Highway Asset Management Plan (HAMP).

This strategy will be used to support the continuous improvement of our management of highway asset by capturing the outcomes of using the optimum treatments or interventions over the whole life cycle of the different asset groups.

## Monmouthshire

The County of Monmouthshire covers an area of 330 square miles and supports a population of 91 thousand.

Monmouthshire has four major urban centres Abergavenny, Caldicot, Chepstow and Monmouth, but is essentially very rural in nature. The County is recognised for the wide range of species and habitats it contains with many areas designated as Sites of Special Scientific Interest

The County's highway infrastructure assets have a total value of around £xx with around 1,600km of adopted highway networks.

Monmouthshire, as the Highway Authority, has a statutory duty to maintain the highway network in a condition to enable the safe passage of the travelling public.

The County's highway network comprises a wide range of assets and this strategy describes how the principles of asset management are applied to all highway infrastructure assets that are the responsibility of the Council. These assets are summarised in Appendix A.

## Implementing Effective Asset Management

Monmouthshire County Council recognises the importance of its highway infrastructure in the context of the well-being of all who use it. The Council is committed to the good management of its highway assets, not only for now but also for future generations and recognises that effective asset management provides the required approach for efficient management of the highway infrastructure to deliver required levels of service.

The Authority has been developing and implementing asset management principles over a number of years. The Council has been focusing on the implementation of an asset management approach with priority given to the management of asset information and its effective use, as well as the development of processes that deliver required outcomes, through the use of appropriate data analysis or predictive condition profiling tools which support budget and lifecycle management planning.

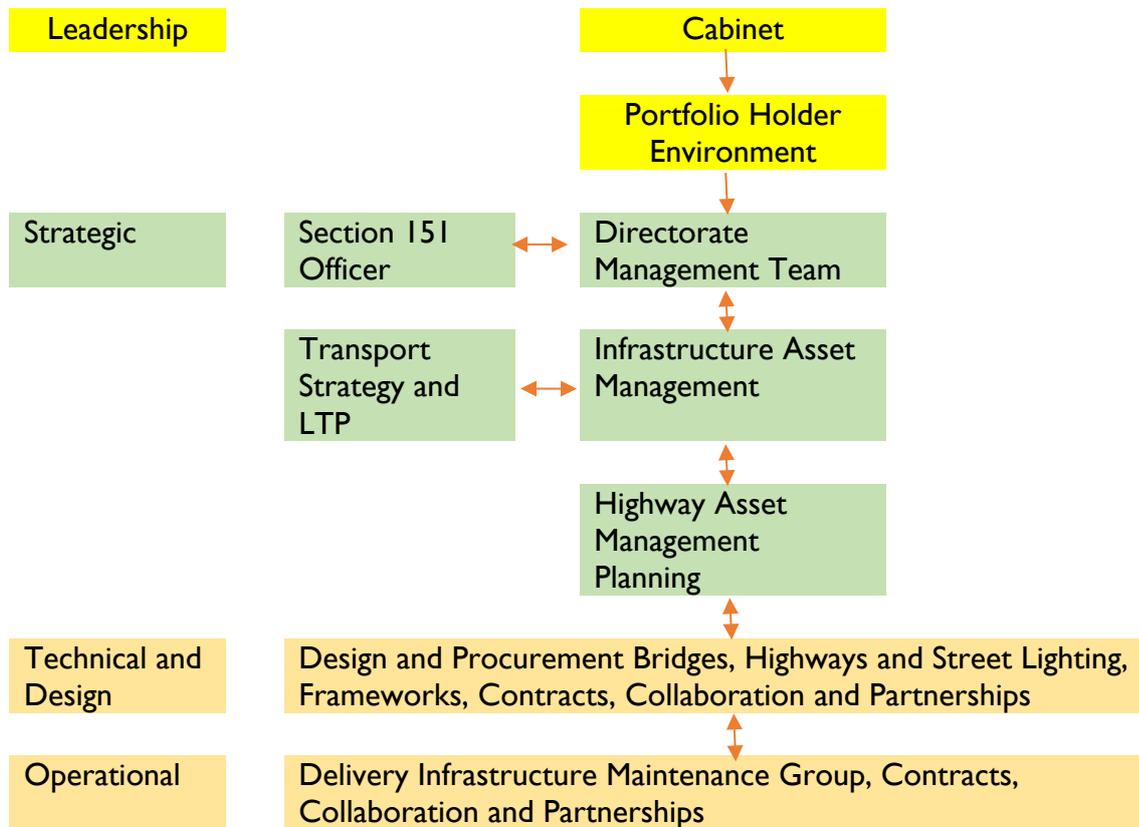
## Monmouthshire's Highway Asset Management Framework

This Highway 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 two key documents; the Council's Highway **Asset Management Plan (HAMP)** and the Transport Strategy. Both contain the approved and adopted policies and policy guidance in respect to the Council's legal requirements and its service provision. These documents reflect the guidance laid down in Well Managed Highway Infrastructure Code of Practice.

The Council has established an organisational structure (Figure 1) 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 1: Organisational Structure



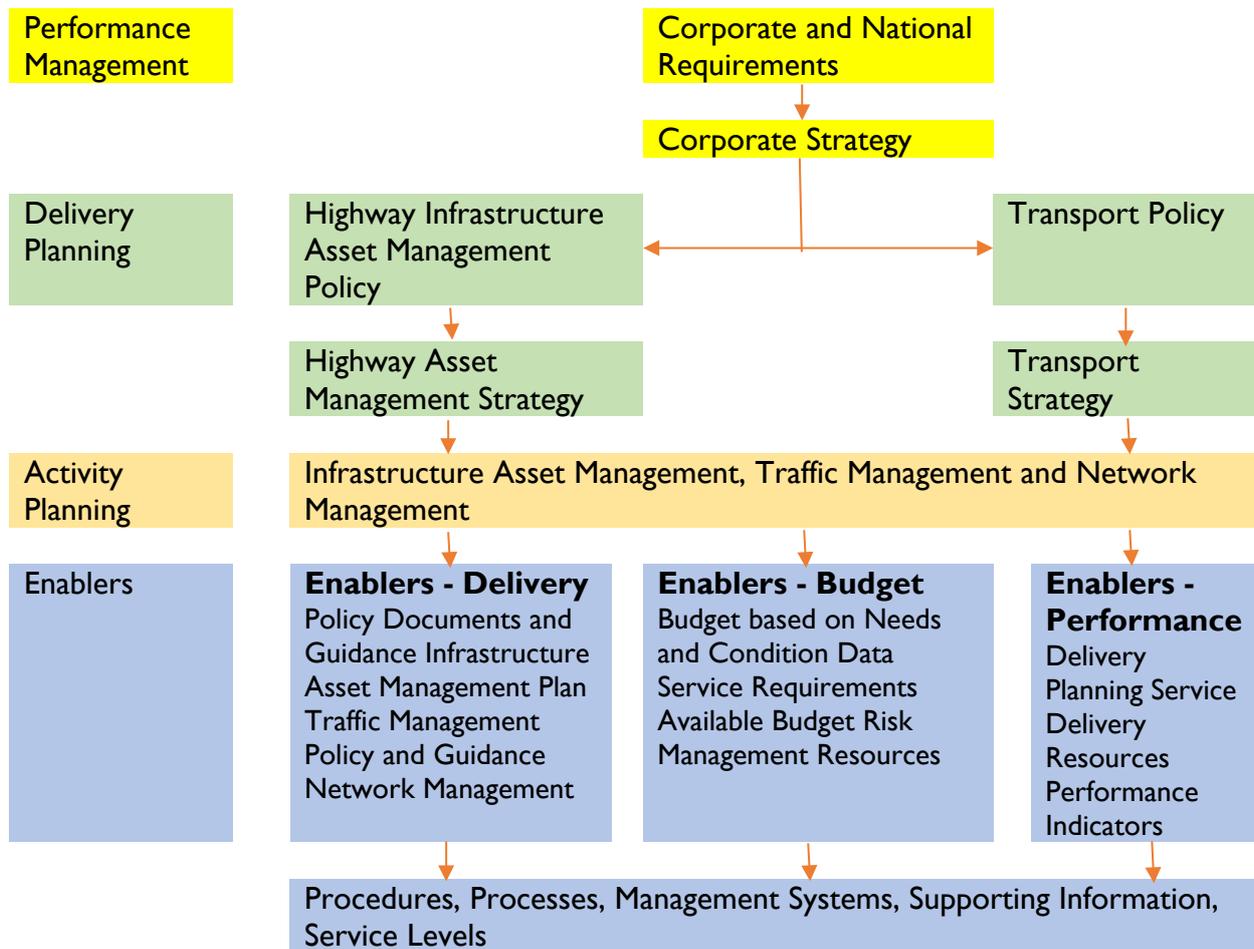
This strategy sets out how the Council’s Highway Infrastructure Asset Management Policy will be achieved. In particular, it describes how the Directorate continues to work towards implementing an asset management approach to the management of the Authority’s highway infrastructure and network. It provides 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 HAMP 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 2, 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 Directorate’s Environment Strategy and Transport Strategy.

The HAMS will inform priorities in the planning and delivery process and therefore support continual improvement in the management of the highway asset.

Figure 2: Asset Management Framework



This strategy covers all maintenance led activities including activities funded by capital and revenue streams.

This strategy explains how individual asset groups and components fit into the framework, describes how the asset management planning process is implemented within the Directorate and refers to tools currently employed, as well as links to other key documents.

Finally, the strategy describes how the Directorate will embed a continuous improvement approach to highway infrastructure asset management, including how national developments and good practice are taken into consideration.

### 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 an 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:

Monmouthshires LTP objectives  
Service Delivery and Planning  
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 should be considered. For the delivery of its highway services, It is clear that there is a need to develop closer working between officers tasked with the delivery of technical management and operational works for all the reactive and planned routine operational functions, including the structural maintenance and street lighting replacement and improvement programmes.

In line with national guidance and good practice, Monmouthshire is developing 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. Monmouthshire's goal is to improve public satisfaction with its highway services, whilst maintaining value for money and continuing to provide a safe highway network, in line with corporate priorities.

Monmouthshire plans to adopt a budgeting approach which will deliver the principles of lifecycle management planning and employs a risk management approach in assessing the influences across the following criteria; Legislative, Safety, Environmental, Economy and Customer.

This approach will allow 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.

## Asset Groups and Components

Monmouthshires highway infrastructure has been divided into key assets groups and components, as described in Table I.

Table I: Asset Groups and Components

Asset Group	Asset Components
All Classification of Roads	Carriageway, footways and cycle-ways, drainage
Structures	Bridges, Retaining Walls, Culverts
Street Lighting	Street Lights, Illuminated Traffic Signs and Traffic Bollards
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

A number of activities are included under each component, as described in Appendix B.

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.

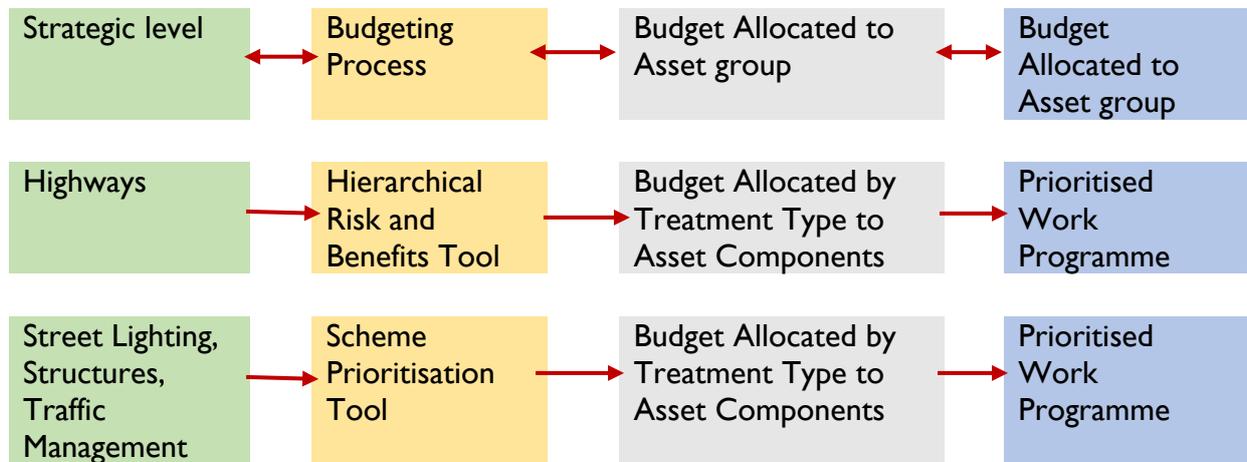
Identifying where money is invested, allows the Council to monitor performance against service delivery and the implementation of a continuous improvement process, within the constraints of available funds.

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 a robust budgeting system can be developed.

## 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

Figure 3: 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.

This approach considers the risks and benefits of funding individual activities and to achieve this, five risk criteria, with four sub-criteria for each, have been developed, as described below.

#### Safety

Accessibility, Claims received, Killed and seriously injured records, Safe use of the highway.

#### Environmental

Ecology, Carbon footprint, Climate change, Congestion, Recycling/ Waste minimisation.

#### Economic

Supporting local business, Contractual, Whole life cost, Value for money.

#### Qualitative & Legislative

Targets and performance indicators, Corporate objectives, Council policies, Equalities, legal requirements.

#### Customer Focus

Community need, Public perception, Member perception, Reputation.

These criteria are assessed against each activity to determine impact on the service for different budget scenarios. Through this approach, funding is linked to Asset Groups.

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

Planned Maintenance – replace or enhance;  
Preventative Maintenance – arrest deterioration pro-long 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.

There are a number of tools available at the Highways service level, for carriageways and footways which allow lifecycle aspirations to be considered and compared with condition targets and budget constraints 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.

## Maintainability

One of the aims of good asset management is to improve co-ordination between highway improvement and highway maintenance schemes. Taking into account the cost and implications of maintaining the asset at the design stage will ensure that whole life costs of schemes are optimised. The Highway 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.

Monmouthshire 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.

## Review Process

This strategy will be updated annually with minor amendments and fully reviewed on a six yearly basis. This process will be managed by the Infrastructure Asset Manager with inputs from the respective officers tasked with the management of the various elements of the Highway Network.

## Benefits of our Asset Management Strategy

The benefits of implementing the Highway Asset Management Strategy are set out below:

Encourages engagement with other stakeholders, including Elected Members, Senior Officers and the public

Readiness to respond to changes resulting from climate change, weather emergencies, contractors, resilience and finance;

Close working and integration of efforts with other parts of the Council, including Corporate aims and objectives;

Improved delivery within budget constraints – including procurement;

Efficiencies and Collaboration – better ways of doing things, or improved service, enhancing performance in a challenging environment;

Improved understanding of customer aspirations and expectations;

Aids our understanding of what we do by identifying, explaining and providing outcomes to key stakeholders

To influence and focus on the better use of resources.

## Appendices

### Appendix A – Summary of highway Infrastructure Assets

Key Assets	Asset Information			
Asset group	Quantity (approx.)	Unit	Value(approx.)	Average lifespan if maintained
Carriageways		Km		40 years
Footways flags		M2		30 years
Footways bitmac		M2		30 years
Bridges		Nr		120 years
Lighting columns		Nr		Concrete 30 years Galvanised steel 40 years Non galvanised steel 30years Stainless 50 years
Illuminated Signs		Nr		Sign 12 years Pole 25 years
Illuminated bollards		Nr		12 years
Non illuminated signs		Nr		Sign 12 years Pole 25 years
Non illuminated bollards		Nr		12 years
Road marking		Nr		5 years
Highway gullies		Nr		50 years
Highway drains		Km		100 years
Safety barriers and fences		Km		25 years
Trees		Nr		Urban 30 years Rural 120 years
Verges		Ha		50 years

## Appendix B - Asset Groups, Components and Activities

Asset Group	Asset Component	Activity	Works
All Classification Roads	Carriageway, Footway and Cycleways	Reactive Routine Repairs	Reactive repairs carried out from highway safety inspections and customer enquiries that fit the Council's policy criteria for repair
		Preventative maintenance processes	Include carriageway surface dressing & micro asphalts. Includes footway slurry seal. All preparation patching included.
		Cyclical Cleansing	Planned Hot Rolled Asphalt/ SMA carriageway resurfacing/ structural patching.
	Drainage	Planned Repairs	Scheduled cyclic gully cleansing and reactive cleans from customer enquiries.
			Planned repairs of faults from customer enquiries and reports identified on cyclic cleaning routes.

Asset Group	Asset Component	Activity	Works
Highway Structures	Bridges, Retaining Walls, Culverts etc	Asset Creation	Design and site supervision of construction of new highway structures
		Routine Maintenance	Inspections – general, principal special. Structural reviews and assessments. Cleaning of graffiti and routine maintenance. Monitoring of sub-standard bridges for weight and height restrictions.
		Planned Maintenance	Preventative maintenance minor repairs – waterproofing-painting and reforming. Component renewal – renewal of bearings and expansion joints. Upgrading – strengthening parapet replacements – waterproofing. Replacement of structure nearing end of life or becoming unmaintainable.
		Reactive	Painting of structural steel, mainly footbridges over railways. Urgent repairs for safety. Repairs following RTA's Vandalism Essential major repairs due to scour and linked to other parties works.
		Asset Disposal	Transfer; extinguish highway rights – ownership transfer. Demolition – complete removal or infill.

Asset Group	Asset Component	Activity	Works
Street Lighting	Street Lights, Illuminated Traffic Signs and Traffic Bollards	Reactive Routine Repairs	Includes all unplanned reactive repairs to lights not working as planned.
		Structural and Electrical Testing and Inspection	Includes planned structural, visual and electrical testing and inspection.
		Structural Routine repairs, including Reactive repairs	Routine and High Priority from inspections, emergency and accident/vandal damage.
		Lighting Column and Pole Renewals	Replacement of lighting columns and poles nearing end of life or becoming structurally unsound.
		Painting	Painting of structural steel lighting columns and poles.
		Graffiti / Refurbishment	Cleaning of graffiti and routine maintenance
		Cleaning	All traffic sign and bollard faces.
		Energy	All energy consumed associated with street lighting, traffic signs and illuminated traffic bollards.
Traffic Signs and Street Furniture	Non-Illuminated Traffic Signs and Traffic Bollards, Street Name Plates	Reactive Routine Repairs	Includes all unplanned reactive repairs to lights not working as planned.
		Planned Routine Maintenance	Includes all planned maintenance.
		Structural Testing and Inspection	Includes planned structural and visual inspection.
		Structural Routine repairs, including Reactive repairs	Routine and High Priority from inspections, emergency and accident/vandal damage.
		Pole and Sign Plate Renewals	Replacement of poles and signs plates nearing end of life or becoming structurally unsound.
		Painting	Painting of structural steel poles.

		Graffiti / Refurbishment	Cleaning of graffiti and routine maintenance.
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Asset Group	Asset Component	Activity	Works
Fences, Walls and Safety Barriers	Fences, Walls and Safety Barriers	Reactive Routine Repairs	Includes all unplanned reactive repairs.
		Planned Routine Maintenance	Includes all planned maintenance.
		Structural Testing and Inspection	Includes planned structural and visual inspection.
		Structural Routine repairs, including Reactive repairs	Routine and High Priority from inspections, emergency and accident/vandal damage.
		Fence, Walls and Safety Barrier Renewals	Replacement of Fence, Walls and Safety Barrier nearing end of life or becoming structurally unsound.
Road Markings	Road Markings	Reactive Routine Repairs	Includes all unplanned reactive repairs.
		Planned Routine Maintenance	Replacement of road markings becoming faded or worn.
		Special Surfacing	All anti-skid and coloured textureflex surfacings.
Environment	Grass	Visibility Splays	All defined visibility splays
		Urban Cutting	All defined urban areas
		Rural Cutting	All defined rural areas
	Trees	Routine Inspections / Reactive Repairs	Routine Inspections and reactive repairs, pruning and cutting.
		Planned Replacement or Planting	Planned replacement of existing trees / shrubs or planting of new trees / shrubs.
	Weeds	Routine Spray	Routine spray of footways, edgings and channels.
Pulling		All injurious or hazardous weeds.	
Weather Emergencies	Depots	Maintenance Plant, pumps and Salt Barn	
	Facilities	Service and Materials/ Winter Maintenance	

Other	Other	Technical surveys	
		Management systems	
		other	
		Fees	
		Reserves	

