Telford & Wrekin
Co-operative Council

Protect, care and invest
to create a better borough

V1.06

Highways Infrastructure Asset Management Strategy (HIAMS) 2026 - 2028

August 2026

Contents

Foreword

It is recognised that a good transport network is essential for a successful economy. Telford & Wrekin Council's roads and footways and their ancillary infrastructure assets provide access to jobs, services, schools, shops and tourism facilities. The local roads are at the heart of the transport network and have a key role to play in ensuring that transport in Telford delivers the services that residents need.

The highway infrastructure asset management approach outlined in this strategy document will ensure that the highways asset infrastructure is maintained to the highest possible standard within existing budgetary constraints. It will help to provide direction and to shape the overall quality and resilience of the public realm in Telford & Wrekin.

This Highway Infrastructure Asset Management Strategy document supports the complementary Policy document and assists Council Members and service stakeholders in demonstrating how highway infrastructure asset management is shaped and delivered to support Telford & Wrekin's Council Plan 2024/25 to 2026/27 and the Local Plan 2020-2040.

The purpose of the Highway Infrastructure Asset Management Strategy is to provide a clear position on how the whole highway infrastructure network will be maintained to ensure that it is adequate to support the growth of the Borough and specifically to meet the Council's Strategic Priorities.

The Strategy sets out the platform against which Highways Infrastructure Asset Management is to be implemented and achieved and it supports Telford & Wrekin Council in adopting sound asset management principles to enhance efficiency, ensure value for money and to promote economic prosperity to the wider community.

The Strategy also sets out the benefits of investing in the highway infrastructure and how asset management activities are implemented, measured, reviewed, and improved. This headline strategy position shall receive a review every 2 years and is then subject to a full strategy review every 4 years reflective of the governance electoral periods, and changes to corporate priorities, themes and objectives at that time.

Introduction

Telford & Wrekin Borough Council has 965 km of adopted road network comprising 110 km A Roads, 330 km B&C Roads and 525 km of U Roads. In addition it has 1107 km of adopted footways along with 250 highway structures such as Bridges, culverts and retaining walls.

The highways infrastructure is by far Telford & Wrekin's most valuable public asset valued at around £1.75 billion for adopted roads footways and ancillary assets, and £419.5 million for bridges and other highways structures, with a total value for all infrastructure assets being £2.17 billion (GRC).

The effective and efficient management and maintenance of these high value infrastructure assets is therefore of paramount importance as they underpin the fabric of Telford & Wrekin's economy, commerce, regeneration, and vibrancy and it is vital that the network is resilient and able to cope with the future pressures as the Borough continues to prosper and grow.

All of Telford & Wrekin's highway infrastructure asset service groups work in mutual support regarding their particular Council owned highways assets, to provide and align the management and maintenance of their respective highway's infrastructure assets with the statutory requirements of the Highways Act 1980 for assets maintained at public expense and with the guidance and recommendations given by the Highways Code of Practice 'Well-Managed Highway Infrastructure' October 2016.

The implementation of this strategy includes interaction with and influences from various other internal Council service areas and with external organisations which will inevitably impact on the delivery of works and services delivered by the Authority's highways asset maintenance groups and vice-versa.

The table below provides examples of partnership organisations who will have an impact on the delivery of infrastructure works and services.

Internal Authority Partners:	External Authority Partners:
Planning Authority (+Legal & Finance) Development Management Estates & Investments biT Group Environment & Neighbourhood Grounds & Cleansing Strategic Transport Highways Network Management	Department for Transport National Highways West Midlands Combined Authority MHA+ LCRIG Automated Mobility Network IHE Adept LGA Environment Agency Utility Organisations Coal Authority Homes England Network Rail Canals & Rivers Trust Contractor & Consultant Organisations Parish and Town Councils Public Stakeholder Organisations & Minority Groups (various)

In recognition of UK Government's guidance and direction through asset management best practice, operational efficiencies can be realised, and service priorities can be determined by adopting the following asset management principles:

- Adopt a long-term strategic approach to highways maintenance management.
- Consideration of stakeholder expectations needs and aspirations.
- A systematic approach to maintenance management activities

- Optimal allocation of resources
- Management of investment over the asset lifecycle
- Efficient asset performance management

Telford & Wrekin Council will adopt and promote the principles of asset management to give a strategic approach to managing the highway network. This will provide clarity and confidence to decision makers in relation to current and future planned maintenance.

The adoption of these principles will enable the setting and realisation of operational objectives in order to manage and maintain the highways and transport assets. This will be achieved through:

- The collection of core asset inventory and condition data as a platform from which to make informed decisions and develop annual and forward priority works programmes.
- The setting of service levels and asset performance targets that supports the Corporate priorities and addresses customer needs and expectations within the limitations of funding and resource availability.
- Focusing on outcomes that help to prioritise future funding decisions.
- Replacing short-term reactive repairs, with longer term cost-effective repairs and thereby providing value for money
- Providing a clear evidence base to justify the need for investment in highways management and supporting decision-makers in reconciling short-term pressures and long-term priorities.
- A determination of priority highway infrastructure maintenance and investment needs through a process of “Condition Appraisals” and “Value Management” taking account of lifecycle planning principles in order to realise annual and future funding needs and to identify timely and affordable maintenance solutions.
- The undertaking of durable pothole repairs, reflective of customer and operational safety needs, traffic management requirements and street works coordination measures.
- The installation and maintenance of long life and energy efficient LED street lighting lanterns throughout the borough.

Telford & Wrekin Council Plan 2024/25 to 2026/27

The Telford & Wrekin Council Plan 2024/25 to 2026/27 provides the platform for improving the quality of life for people living and working in the town and for those visiting and investing in Telford & Wrekin.

The plan is based around a set of five key priorities:

- Every child, young person and adult lives well in their community
- Everyone benefits from a thriving economy
- All neighbourhoods are a great place to live
- The natural environment is protected, and the Council is taking a leading role in tackling the climate emergency
- A community focussed, innovative council providing efficient, effective and quality services

This is achieved by:

- Responding to the climate emergency through tangible actions; and preventative approaches that elevate the health, well-being, and happiness of residents, as well as their safety.
- Delivering an inclusive economy agenda anchored by a commitment to Community Wealth Building so that inequality, poverty, and racial disproportionality can be tackled, alongside the housing crisis.
- Investing in our children and young people so that Telford & Wrekin is the best place for them to thrive and flourish.
- Wanting the best for our communities- so that they can live in safe and clean neighbourhoods.
- Involving residents in decision-making as part of our people-power agenda of participatory democracy
- Transforming the Council so that it is fit-for purpose for the 21st Century and able to deliver optimal services for our residents within the framework of good governance and transparency.

Telford & Wrekin Local Plan 2020 to 2040

In addition to the 'Council Plan', the 'Local Plan' sets out the Council's policies, vision, strategy and proposals for the planning of the borough up to 2040 to meet the Council's needs for housing, employment, growth and other development.
The borough vision is underpinned by the following six strategic priorities which are aligned with the Council Plan to Protect, Care and Invest to Create a Better Borough.

- **PRIORITY 1**: Tackling climate change and achieving carbon neutrality
- **PRIORITY 2**: Protection and enhancement of the green, natural and historic environment
- **PRIORITY 3**: Maximising inward investment and employment opportunities
- **PRIORITY 4**: Securing better homes for all
- **PRIORITY 5**: Delivering regeneration, renewal and stronger communities
- **PRIORITY 6**: Improving health, wellbeing and tackling health inequalities

Telford & Wrekin Council | Review of the Telford & Wrekin Local Plan

Telford & Wrekin will apply strategic Highways Infrastructure Asset Management processes and practices that supports these key principles and community priorities, ensuring a holistic approach encompassing all facets for the delivery of highways and transportation services. This provides the platform for Telford & Wrekin to deliver safe, serviceable and robust highways and transport infrastructure services. It will also help identify the priority needs of the service and will promote and support the current and future interests of customers and external stakeholders.

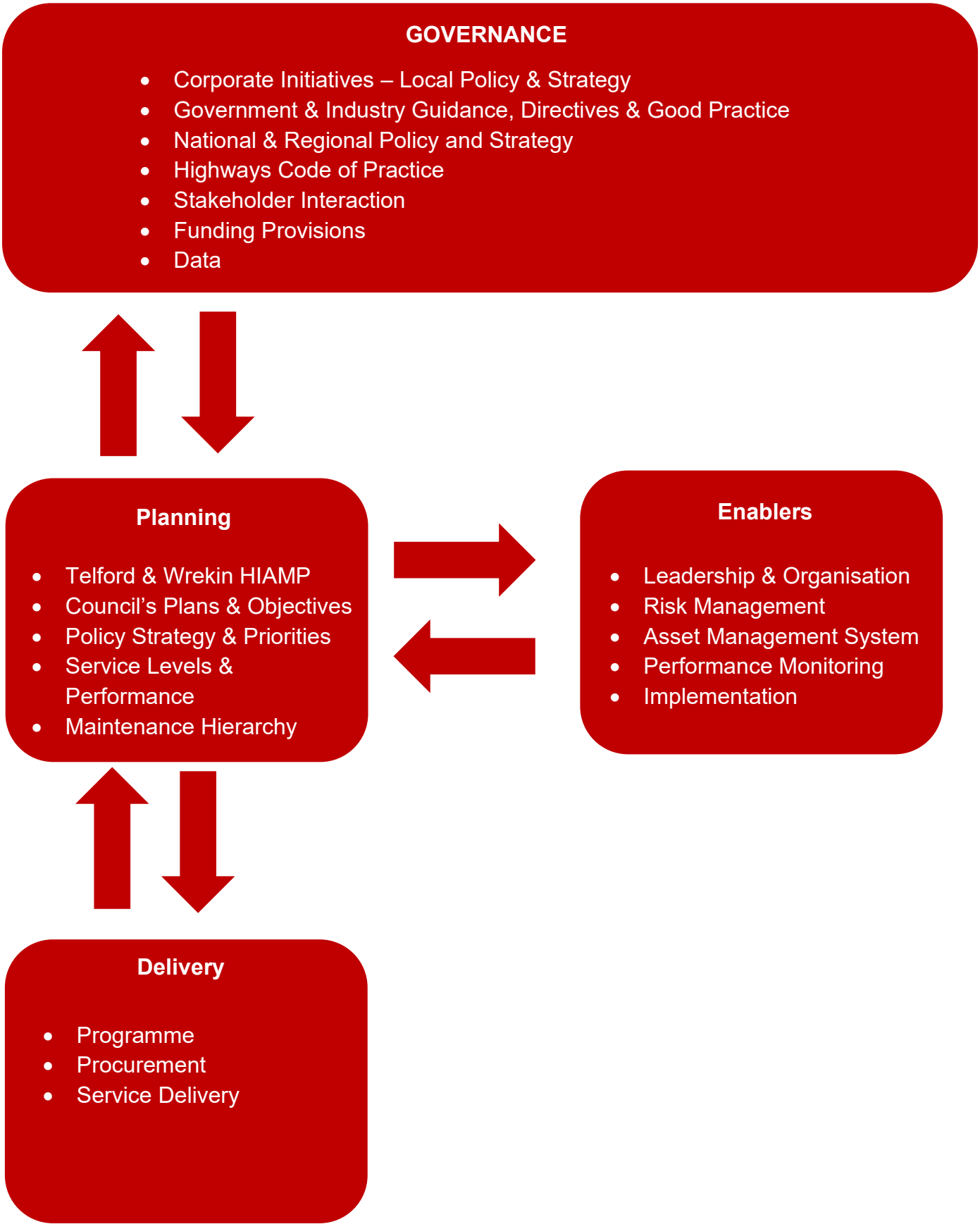
The HIAMS will form the operational and managerial basis for the identification and delivery of priority planned and reactive works, and schemes for each of the core asset groups of highways, bridges, flood risk, street lighting and traffic signals. It will demonstrate how key stakeholders engage and align with the services and how they may impact on the desired outcomes for service delivery.

A review of the Local Plan is currently ongoing in 2026 and is due to be adopted in 2027.

Telford & Wrekin Highway Infrastructure Asset Management: Strategy Model

Telford & Wrekin 'Asset Maintenance Management Strategy' is modelled to provide connectivity between top level governance protocols and operational service delivery processes, in order to provide an asset service outcome which is fit for purpose and reflects the existing and future priority and functional needs of the Council and its stakeholders.

The Strategy Model is based on the HMEP "Highway Infrastructure Asset Management Guidance Document" and it comprises of the following framework components which transforms governance protocols into operational outcomes.


GOVERNANCE
Corporate Initiatives – Local Policy & Strategy
Government & Industry Guidance, Directives & Good Practice
National & Regional Policy and Strategy
Highways Code of Practice
Stakeholder Interaction
Funding Provisions
Data
Planning
Telford & Wrekin HIAMP
Council's Plans & Objectives
Policy Strategy & Priorities
Service Levels & Performance
Maintenance Hierarchy
Enablers
Leadership & Organisation
Risk Management
Asset Management System
Performance Monitoring
Implementation
Delivery
Programme
Procurement
Service Delivery

Governance:

Governance considers the organisation and its political and stakeholder environment through which Telford & Wrekin's highway services are delivered; it comprises of the following entities:

Local Policy & Strategy

The Telford & Wrekin 'Highway Infrastructure Asset Management Strategy' and service delivery functions and activities are developed and aligned to various operational and managerial service plans and policies. They shall underpin and support the corporate initiatives and environment offered by the various strategies, service plans and priorities given by the following corporate documents in support of their communities, businesses and commerce:

- Corporate Plan
- Local Plan
- Highway Infrastructure Asset Management Framework Documents

These policies, plans and processes create the interconnected building blocks aimed at delivering a strong economy where businesses can grow, and where people thrive in a cleaner, safer and healthier environment. This is promoted through the delivery of modern value for money services and further supported by strong leadership and governance working in partnership and collaboration with key stakeholders and service providers.

Industry Guidance, Directives & Good Practice

The borough of Telford & Wrekin will take account of the advice, guidance and good practice initiatives offered to them through the following government and industry sources:

- HMEP – Guidance Docs and Toolkits
- DfT – Protocols and directives
- RSTA – preventative maintenance processes, products and good practices
- ALARM Survey – Performance and Delivery
- CIPFA – HAMP Network initiatives and WGA
- ADEPT – National Guidance and Asset Management direction
- APSE – Industry coordination, alliances, collaboration and benchmarking

- LCRIG - Innovation, sector collaboration, funding opportunities and sharing of good practice across local authorities and the supply chain
- MHA+ - Regional collaboration, framework support, knowledge sharing and benchmarking to improve delivery and asset management outcomes

National & Regional Policy and Strategy

National, regional, and local policy, strategy and guidance will be assimilated into Telford & Wrekin Highway Infrastructure Asset Management service delivery functions and activities, in order to align and coordinate with overarching and cross-boundary service delivery initiatives impacting on highways infrastructure asset management. Whilst there are a number of industry best practice guides available, the main asset management guidance document is the Highways Code of Practice 'Well-Managed Highway Infrastructure' which was released in October 2016.

Telford & Wrekin are working in full compliance with the 2016 Code of Practice and have implemented the main recommendations of the Code.

Stakeholder Interaction

Stakeholder engagement is encouraged and indeed welcomed in order to fully capture and acknowledge the needs, wishes and aspirations of all highway's users, and to support the review of service delivery strategies, priorities and levels of service.

The Council will ensure that key stakeholders and members of the public have easily accessible and direct channels of communication to report issues, provide input into the management of the highway asset, and be kept informed about highway maintenance works and key decisions.

This will be achieved through the following:

- Feedback from Ward Members and Service Managers (reflective of community interests and aspirations)
- High level asset management information provided through the website
- FAQ's
- Traffic & Transportation Services
- Customer feedback through the National Highways and Transportation (NHT) survey
- Emergency Planning (Resilient Network, Critical Assets & Infrastructure)

- Telford & Wrekin's customer services reporting system, website, apps
- "My Telford" is Telford & Wrekin's online webpage where residents and stakeholders can report issues which requires the council to do something, for example, reporting a pothole.
  The website address for this service is: https://www.telford.gov.uk/website/my-telford/
  This will probably be the main source of interaction with stakeholders for the management of the highway infrastructure assets.

Effective stakeholder interaction is crucial for Telford & Wrekin's success and sustainability. It helps to build trust, foster strong relationships, and create a positive reputation. Additionally, it can lead to better decision-making by incorporating a wide range of perspectives and expertise.

In respect of scheme delivery, a well-established communications plan and process is embedded into the scheme protocols, incorporating a range of communication types including emails to stakeholders, letter drops and posters and digital notice boards on site as well as the use of web pages and social media to keep stakeholders informed.

Funding Provisions

Various funding sources are potentially available for the delivery of highway maintenance and management services. These will be utilised to best effect by adopting a strategic and prioritised approach to service delivery, considering the the existing and future needs of the Councils customers.

- LTP annual capital budget allocations.
- DfT Grants
- Telford & Wrekin Council annual revenue funding.
- Telford & Wrekin Council Capital
- Commuted sums
- Town and Parish Council partnership funding
- Section 106 Developer Contributions
- Insurance claims against third parties in respect of damage to council property.
- DEFRA - Flood Defence Grant in Aid and Local Levy through Regional Flood and Coastal Committee.

Data

Infrastructure asset records are set up, against which inventory & condition data is collected, registered, processed and managed. This forms the platform from which condition performance and trend measures are collated and service level target setting protocols are established. From this platform the future priority needs of the infrastructure assets can be established, modelled and implemented.

The table below shows examples of typical data which may be recorded to reflect the different asset survey types:

Asset Type	Survey Type	Survey Regime	Last Survey Date	Survey Inspection Frequency	Data Held System
Carriageway	Condition	AEI	Aug 2025	Classified Rds: Annually ---------- Unclassified Rds: Every 4 yrs	XAIS-PTS - XA
Carriageway	Condition	SCRIM		Annually	XAIS-PTS - XA
Footway	Condition	FNS	2017	10 years	Horizons
Street Lighting	Inspection Night Scouts	Structural Luminescence	- -	2-5 years depending on previous survey Monthly for major routes	Mayrise
Drainage	Inventory / Condition	Gully	2025	4 years	Kaarbontech
Structures	Inspections	PBI GBI	Variable Variable	Risk Based Biennially	BridgeStation BridgeStation
Traffic Signals	Inspection and condition	TM101 (TD24/97)	Variable	2 yearly for sites less than 10 years old,	Imtrac

				annually for sites older than 10 years old.	

Planning

Planning describes the key activities, processes and drivers employed in the strategy, and advises on how these should be applied and implemented.

Policy, Strategy and Council Priorities

The Highways Infrastructure Asset Management Policy and Strategy have been adopted and embraced by Telford & Wrekin's Executives in support and recognition of the Council Plan and Local Plan.

These are delivered through community focused connected services underpinning the health and well-being of people going about their daily business within their place of work, and in their living and learning environments. They provide the direction and protocols that should be adopted in order to provide effective support to promote a thriving economy, protect the environment and address climate related emergencies.

The Policy and Strategy documents set out Telford & Wrekin highways service delivery initiatives, and affordable and sustainable priority maintenance solutions that meet the current and future needs of stakeholders.

Service Levels and Performance

Levels of service for each major asset group are identified, taking into consideration stakeholder expectations. They are aligned to the Council Plan and Local Plan and are balanced against the ability to provide affordable maintenance solutions and services within funding limits and resource availability.

Service levels for the following 'Asset Groups' will be set reflective of the stakeholder customer expectations, and these will be monitored against measured performance and target criteria.

Asset Group	Asset	Service Level Data Collected
Highways	Carriageway Footway Winter Services	Service Level / Performance Indicator Definition Target Performance Data Required Measurement Reporting Frequency
Bridges & Other Highway Structures	Bridges Retaining Walls Underpass Culverts	
Flood Risk/Drainage	Gully	
Street Lighting	Lighting Units Lighting Column Illuminated Traffic Signs	
Urban Traffic Control (UTC)	Traffic Signals	

Once a Level of Service has been set for an asset, lifecycle planning may be used to determine the resources that will be required to maintain the asset in the condition stated within the Level of Service, and to identify the optimum times for repair or replacement reflective of the asset lifecycle. As a minimum the Council will apply service levels to ensure that the transport network enables local residents and businesses to undertake their daily activities in a safe and sustainable manner.

Maintenance Hierarchy

All roads are allocated to a designated 'Maintenance Hierarchy' in accordance with the guidance provided in the Highway Infrastructure Code of Practice 2016.

Maintenance hierarchy provides the platform against which highway infrastructure services are prioritised and delivered reflective of traffic usage, volume, importance, connectivity, risk, etc, associated with different road types and environments, it also provides the basis for establishing the frequency of highway safety inspections.

Safety Inspections

Asset safety inspections are undertaken through the adoption of a risk-based approach at designated survey frequencies reflective of maintenance hierarchy to address the reactive safety needs of highway infrastructure assets. The Council adopt a robust application of the

safety inspection process and follow-up maintenance that will ensure highway users remain safe whilst using the highway infrastructure assets and it will assist in providing a legal defence in support of Section 58 of the Highways Act 1980.

Public Rights of Way (PROW)

The responsibility for the inspection and maintenance of Public Rights of Way (PROW) is governed in England by the Countryside and Rights of Way Act 2000. In general, authorities are required to maintain records and ensure that ways are adequately signposted, maintained and free from obstruction.

The Highways Code of Practice recommends that certain PROW should be considered as part of the footway hierarchy, therefore safety inspections and maintenance should be carried out accordingly. These principally relate to those PROW that are metalled surfaced and located within or on the fringe of urban areas and are contiguous with adopted footways of a similar nature and user status.

To recognise users' requirements for consistency, the public will make no distinction between footway/footpaths and metalled PROW asset types, they would therefore expect them all to be incorporated in the footway hierarchy irrespective of their designation, and their inspection and maintenance needs should be aligned. The Council recognise the requirement for identifying and including metalled surfaced PROW as a footway hierarchy group and will liaise with and advise the PROW section in terms of their obligations for safety inspection and asset maintenance needs.

Lifecycle Planning

The Council acknowledge and appreciate the principles of the lifecycle planning processes in order to consider asset performance, maintenance interventions and indicative works priorities. When applied to condition projection modelling initiatives, this will support highway investment planning considerations, to inform on asset performance and budget optimisation for the current and future investment needs for highways asset maintenance.

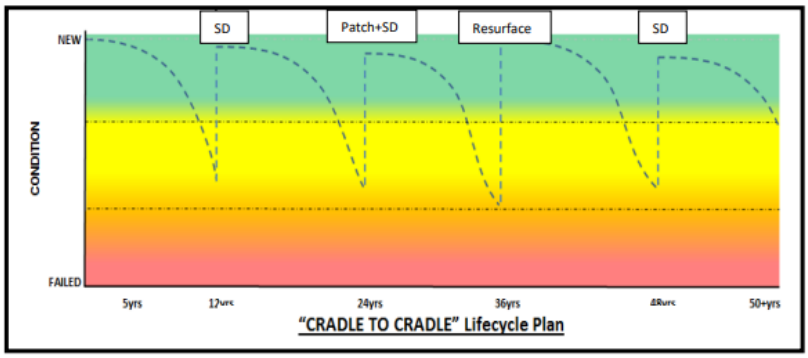
Lifecycle planning and deterioration modelling is necessary in order to:

- derive an effective long term maintenance strategy
- ensure that targets are met in a manner that maximises value for money

- assess the cost and likely impact of alternative maintenance treatments on network performance over time by asset and road type as well as geographic area – the latter is often important in political terms
- ensure that costs are minimised over the lifecycle of the asset whilst still meeting performance targets

A lifecycle planning approach will be considered for all major assets (where possible) in order to assess the impact that different levels have of funding on asset performance and asset maintenance needs. Investigating current and future levels of funding will allow a required performance target or given asset condition to be achieved. By identifying the levels of funding required, whole life costs can be minimised, and resources can be allocated accordingly. Presently, a lifecycle planning approach has only been applied to the carriageway assets.

In support of this the Council have adopted a balanced approach to lifecycle planning by employing a “cradle to cradle” lifecycle maintenance strategy for assets that have an infinite life (i.e. roads). This strategy is demonstrated indicatively in the diagram below in respect of the carriageway asset.



This comprises of selected ‘worst first’ schemes (or newly constructed highways) followed in future years by a defined cycle of cost effective ‘preventative’ and surface maintenance treatments aimed at considerably prolonging the service life of the highways asset and optimising its performance and serviceability.

Works Programmes & Scheme Selection

Annual and forward priority highways work programmes are developed reflective of a consideration of maintenance management lifecycle planning initiatives, asset performance

& condition modelling, and value management considerations within budget availability and resource constraints. This process supports the determination of the annual and future funding needs, and it promotes the identification of affordable and timely maintenance solutions. An indicative three year forward plan for carriageway schemes has been developed which reflects annual funding needs and affordability considerations, recognises the future engineering design and contracting resources needed, considers site availability and traffic management, and it permits advanced consultation with the utility organisations in order to address potential work conflicts and coordination issues. In addition, forward planning is designed to minimise disruption and maximise efficiency by delivering economies of scale efficiencies and by incorporating maintenance works for multiple nearby and ancillary assets together where possible into the same productive package of works.
Schemes identified and approved for year one in the works programme have high confidence in being delivered, giving residents some level of certainty that the works will be undertaken and it also supports contractor confidence for service delivery. As the time frame of the forward works programme progresses in years two to three, the network condition may change, e.g. reflective of winter degradation or impairment effects. This may necessitate some previous lesser priority rated schemes to be promoted into the current scheme selection programme with the effect of possibly down grading some of the previously approved schemes due to limited annual funding provisions. Should this happen, those schemes that have been demoted will remain on the forward programme for implementation at the next available funding period and in the interim they will remain subject to scheduled safety inspections and interim maintenance interventions, ensuring the network continues to meet statutory safety standards until the planned scheme is delivered. Such occurrences are relatively infrequent therefore they do not impact inordinately on the forward programme.

The schemes selected for priority maintenance shall be reflective of service levels and performance targets aimed at securing a safe, serviceable and sustainable network environment which adequately supports Telford & Wrekin's Council's Corporate Priorities.

The proposed annual priority works programmes are presented to the relevant Cabinet Member for final review, approval and funding, upon which they are registered on Telford & Wrekin Council's website for public information, further information can be found on Telford & Wrekin Council highway planned projects and maintenance page

Enablers:

Enablers describe the functions that support the implementation of the Asset Management Model.

Leadership & Organisation

The Council will continually promote understanding and buy-in from senior Council leaders to the Highway Infrastructure Asset Management Policy, the Highway Infrastructure Asset Management Strategy and to the suite of supporting Highway Infrastructure Asset Management Framework documents in order to seek optimal investment in service delivery within the constraints of the Council's financial provisions. The Council's appreciation of asset management protocols will enable them to make informed choices and will provide them with the ability to defend their decisions reflective of a risk-based approach to asset maintenance management.

Risk-Based Approach

The duty and obligations of the Highway Authority under the Highways Act 1980 is aligned with the risk-based guidance provided in the Highways Code of Practice 'Well-Managed Highway Infrastructure' October 2016.

RECOMMENDATION 7 – RISK BASED APPROACH

A risk-based approach should be adopted for all aspects of highway infrastructure maintenance, including setting levels of service, inspections, responses, resilience, priorities and programmes.

The Council is committed to following a strategic risk-based asset management approach with regards to Highway service delivery to ensure the best possible value for money is attained, and public money is used in the most efficient and effective way possible, reflective of how, where and when it is most needed.

Service delivery is founded on a long-term strategic risk-based approach to works prioritisation in order to provide safe, serviceable and sustainable highways infrastructure assets that delivers an accessible and inclusive highway network with a consideration of current and future risks.

An asset cross-cutting risk-based approach is taken for the priority delivery of mutually supporting infrastructure maintenance services based on informed and robust decision

making in order to optimise asset performance and to deliver solution longevity in support of lifecycle planning and condition projection initiatives.

Risk Management

The Council will identify, evaluate, manage and mitigate service delivery risks as far as is reasonably practicable. Any potential threats to achieving the operational objectives and core priorities will be identified and the Council shall seek to manage and mitigate those threats within the provisions and limitations of operational and funding resources and reflective of Council policy and direction. A risk register is set up to account for operational and fiscal threats and their impact and likelihood with mitigating control measures to address the risks. This shall include a "Resilient Network" which may influence the maintenance priorities for highways, bridges, flood risk and transport services and for support to related critical assets and infrastructure.

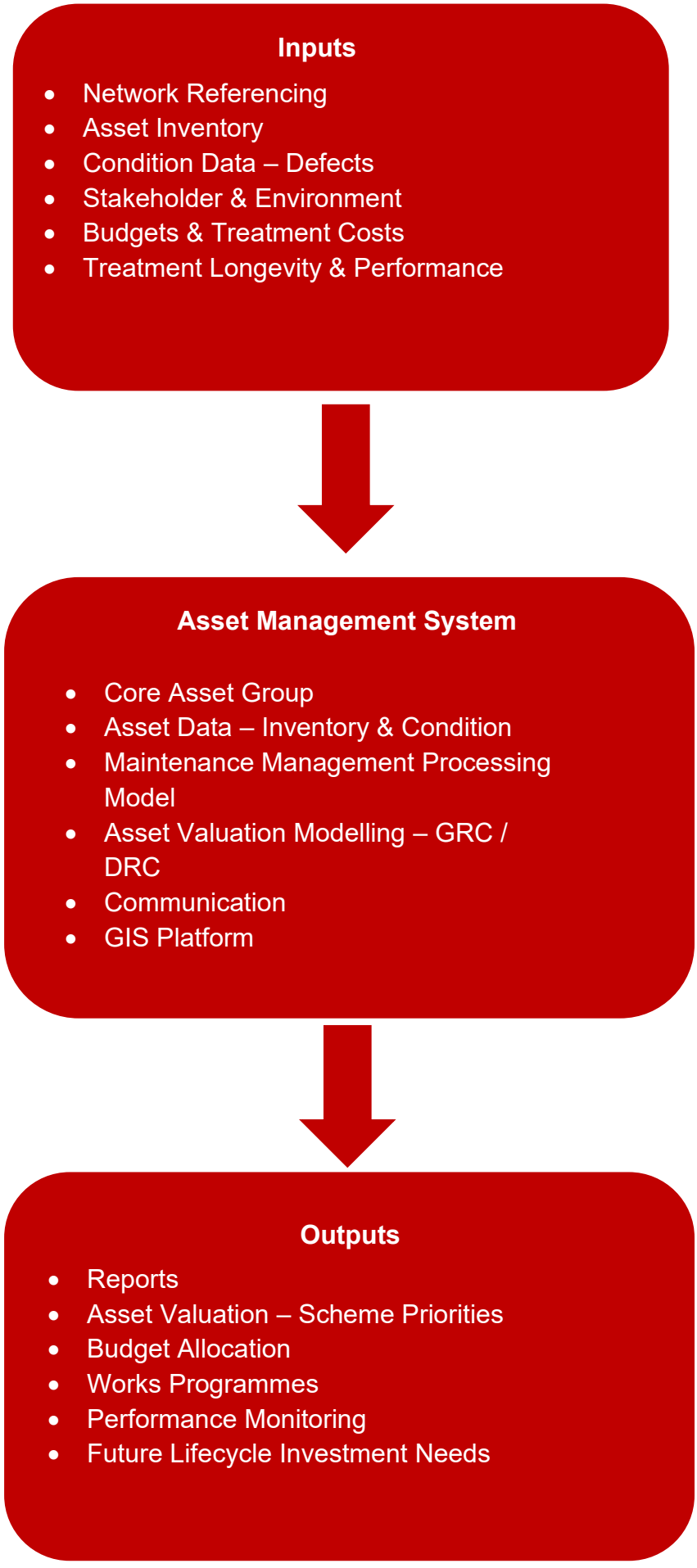
The following Asset Groups and entities contribute to the risk register:

Asset Group	Risk Data
Asset Management	Risk Consequence Event Probability Risk Rating Mitigation
Highway Maintenance	
Drainage/Flood Risk	
Structures	
Traffic	

Asset Management System:

Robust asset management systems and principles are employed to facilitate service functionality, identify priority investment needs, consider 'invest to save' initiatives, determine budget needs and invoke procurement processes.

This process is modelled as follows:


Inputs
Network Referencing
Asset Inventory
Condition Data – Defects
Stakeholder & Environment
Budgets & Treatment Costs
Treatment Longevity & Performance
Asset Management System
Core Asset Group
Asset Data – Inventory & Condition
Maintenance Management Processing Model
Asset Valuation Modelling – GRC / DRC
Communication
GIS Platform
Outputs
Reports
Asset Valuation – Scheme Priorities
Budget Allocation
Works Programmes
Performance Monitoring
Future Lifecycle Investment Needs

Inputs

Inputs identify the various supporting data components that feed into, and underpin the development, provision and operation of the asset management system. The quality, currency, appropriateness and completeness of all data supporting infrastructure asset management is of particular importance.

Robust data collection and management programme inputs will provide the information required to enable some lifecycle planning to be undertaken and for levels of service to be fully developed. Network referencing, asset inventory and condition data, is regularly reviewed to reflect the current status of the highways asset in order to apply modelling processes that will provide meaningful and correct outputs.

Data collection and asset survey regimes are in place for all highway asset groups, however the level and accuracy of information vary by asset type. Highways asset data is currently stored in a number of systems, and it is the Councils aspiration to bring all assets together into one comprehensive database system.

The Asset Management System comprises of the functional components that support the operational decision making and reporting processes, and that may feed into a single or multiple AM systems which are used to model asset condition and determine priority works programmes and investment planning needs.

Asset Management System

The data inputs are fed into the various components of the asset management system(s) for data processing and modelling to provide the information and output reports necessary to facilitate service delivery.

Outputs

This provides the information and data required to support the asset management process. These outputs relate to the operational service delivery aspects of the asset management process that give rise to priority works programming and funding allocations.

Performance Monitoring

Where available and suitable, industry established performance monitoring processes will be utilised to review condition trends, to support benchmarking initiatives and to attain

continuous asset improvement. By highlighting improvements which are underway, and by making progress more transparent, it can be demonstrated how the condition of assets are improving and what more needs to be done. Increasing the visibility of asset performance is essential in managing costs, promoting quality services and meeting customer expectations.

Performance monitoring will be applied to the Councils asset management policies, practices and processes and the Council will use all available data to ensure continual improvement in all aspects of asset management. Performance monitoring will be undertaken at a strategic, tactical and operational level as appropriate.

Performance indicators will be developed and monitored to assess how successfully asset management is being applied locally. They will include indicators measuring data quality; asset condition; public satisfaction, contractor performance and results of benchmarking with similar organisation.

Highways Code of Practice 'Well-Managed Highway Infrastructure' October 2016.

RECOMMENDATION 27 – PERFORMANCE MONITORING: *The performance of the Asset Management Framework should be monitored and reported. It should be reviewed regularly by senior decision makers and when appropriate, improvement actions should be taken. (HIAMG Recommendation 13)*

Telford & Wrekin Council has established a Highways Asset Management Performance Management Framework to track, review, and continuously improve the performance of its highways service. This framework ensures that service delivery is measured against clear objectives and performance indicators, and that outcomes align with local priorities and national guidance such as the Well-Managed Highway Infrastructure Code of Practice 2016.

Performance data is captured through Confirm, XA, CRM and is reviewed through dashboards.

To ensure learning is embedded, the authority also maintains a Lessons Learnt / Service Improvement Log. This records issues or opportunities identified from performance data,

customer feedback, or operational reviews, and assigns actions with clear ownership and timescales.

Performance indicators, enable trend data to be looked at to provide an effective discussion arena for senior management to balance the performance of assets, discuss reasons for poor performance and solutions, consider the risks and the appropriateness of monitoring areas of over-performance where resources might be better managed. The outcome of this exercise is the development of an improvement and action plan which details the expected outcomes, specific actions to be taken, the resources needed to deliver the actions and the timescale for implementation.

Progress is monitored through the authority's performance management processes to ensure accountability. This approach ensures that performance monitoring is a practical driver of service improvement, delivering better outcomes for both road users and residents.

Implementation

The implementation process will take on a gap analysis approach to identify where the service delivery position presently stands and where the Council need to be reflective of achieving the declared service levels and in support of the Council's Priorities. The Council shall review service delivery plans and investment levels and appraise the asset inventory and condition data in order to identify gaps in asset data, systems, performance and service level. The Council shall then develop a staged implementation plan to address any deficiencies and to seek approval from senior decision makers to fund and action the plan over time.

Delivery

Service Delivery

This final process demonstrates how the works and services are to be procured and delivered.

Programme, Service Delivery & Procurement

Prioritised works and services shall be delivered via the Cabinet Member approved programme of works that is supported by the necessary annual funding and resources provisions. Robust cost-effective procurement processes are engaged for the programmed delivery of works and services in order to secure their correct, timely and quality delivery and to ensure value for money.

Procurement will be through the industry standard competitive tendering and framework arrangements in accordance with Telford & Wrekin's financial and procurement procedure rules. They shall be inclusive of collaboration and alliance initiatives with other Local Authorities in order to secure best value services.

Various modes of service delivery may be used reflective of the nature of the works, the capabilities of the Authority and the resources it can offer at any point within the year.

- In House – Use of the Council's internal provision of highway services and staff remaining within the employment of the authority.
- Term Service Contract Provider – The primary route for the delivery of planned, routine and reactive maintenance works, ensuring efficiency and long-term value.
- External Sub-Contractor & Multiple Providers – A Council managed contract with various specialist organisations to ensure the delivery of relevant highway maintenance service elements for a defined task or period of time.
- Framework – The Council will use framework contracts for the provision of particular services where appropriate.

Asset Impairments / Failures

From time to time the impairment of a major infrastructure asset may be encountered which results in a critical failure of the asset/infrastructure, e.g., bridge failure due to flooding, or major road collapse following severe weather effects or wash-out. These are exceptional circumstances which shall be addressed by reprioritising annual works programmes and/or by securing additional capital reserve funding.

Maintainability

To help promote the sustainability of future highways improvement schemes, the treatment processes and materials used may be subject to a 'maintainability review' in order to identify quality and trusted materials that are readily available and cost efficient. Designers will be encouraged to specify materials and select maintenance processes on the basis of durability, ease of sourcing, whole life costs and supplier location, in addition, environmental protection and carbon reduction measures will also be considered.

Carbon Reduction

The management and mitigation of high carbon generating processes, systems and materials production and usage is of paramount significance and importance in the effective governance and delivery of today's highways asset infrastructure services.

European standards for Carbon Management in Infrastructure (PAS 2080:2016) provides a common framework for all infrastructure sectors on how to manage whole life carbon management when delivering infrastructure assets and programmes of work. This framework sets out a hierarchy for tackling carbon emissions which identifies prevention as the biggest opportunity for radical reduction in carbon emissions within an infrastructure context. In highway asset management terms, this hierarchy of mitigation means that the Council must either not build new assets in the first place or not replace existing assets with new. However, once the Council have provided new assets, the Council must find ways to increase their resilience and longevity, and drive down the need for subsequent and inordinate maintenance activities by reusing and recycling assets and construction materials and by adopting a lifecycle approach to the provision of asset maintenance management activities.

Network Resilience and Emergency Works

Following the Department for Transport (DfT) '*Transport Resilience Review'* (2014), local highway authorities were encouraged to designate a "Resilient Network" of roads. The review explicitly recommended that Local Highway Authorities should ***"identify a 'Resilient Network' to which they will give priority, in order to maintain economic activity and access to key services during extreme weather"***.

In addition, The Infrastructure Code of Practice 2016 (Well-Managed Highway Infrastructure) provides guidance that helps clarify the distinction between **resilience planning** and the development of a **maintenance hierarchy**.

Notably, the code separates the two concepts into different recommendations:

1. defining a network hierarchy for the purposes of general asset maintenance management.
2. identifying a resilient network for preparing and responding to extreme weather events.

Resilient Network: Recommendation 20 of the COP advises that **"*Within* the highway network hierarchy, a 'Resilient Network' should be identified *to which priority is given through maintenance and other measures to maintain economic activity and access to key services during extreme weather*"**

In addition, Recommendation 21 considers 'Climate Change Adaptation' stating that ***"The effects of extreme weather events on highway infrastructure assets should be risk assessed and ways to mitigate the impacts of the highest risks identified".***

Both the DfT and Code of Practice statements are complementary and mutually supporting and they serve to distinguish between the establishment of risk-based maintenance hierarchies as part of its asset management strategy, which is used to prioritise highway routine and safety inspections, repairs and investments under 'normal conditions' and is focused on long-term asset care and safety. This is distinct from the resilient network routes that will often form part of the primary gritting routes and/or emergency diversion routes, ensuring that during severe winter weather and in times of externe storm or major flood events, the focus will be on keeping those critical travel corridors open and access is provided to critical infrastructure assets.

The authority emphasises operational resilience as a distinct planning process in reacting to and managing extreme weather events. This approach aligns with the intent of the

resilient network concept in that these roads are given precedence in extreme adverse conditions like snow, ice, and flooding.

In practice, all resilient network roads will intrinsically fall into various maintenance hierarchies. Within each hierarchy group such roads should be identified and in the event of a forecasted extreme weather event these roads should receive a pre-inspection and if necessary, may receive maintenance in order to prepare it to withstand the weather event, this may for example take the form of gully/drainage checks and cleansing works.

In addition, the resilient network roads may be considered for scheme planned maintenance needs, this may be included in the highways 'Value Management' modelling process for selection such that the road may receive a resilience VM score within their respective maintenance hierarchies to contribute and help promote its condition ranking and hence its maintenance prioritisation status.

A resilient network has been developed by Telford & Wrekin reflective of the above criteria that is able to cope with a range of highly disruptive events, and in particular extreme weather events aligned to the above recommendations and guidance. The resilient network will be maintained to the required Level of Service to maintain access to the essential areas of the borough should such an extreme event occur.

The Strategic Resilient Network (SRN) is made up of core local routes which are required to maintain economic activity, essential transport links, and access to key services and to critical infrastructure assets during extreme weather events and other emergency situations.

The resilient network has been developed by the Highways Team working alongside the Civil Resilience Manager and with key stakeholders across the borough to take into account various policies and plans such as the 'Severe Weather Plan' and 'Operation Tangent' for responding to a landslide situation in the Ironbridge Gorge.

Winter Service

So far as is reasonably practicable, that safe passage of vehicles and pedestrians along the key highway network will not be endangered by snow or ice.

The 'Winter Service' deals with regular, frequent and reasonably predictable occurrences like low temperatures, ice and snow, as well as with exceptional events and is undertaken to assist in the safe movement of all road users including buses, cyclists, motorcyclists and pedestrians and to minimise delays caused by adverse weather conditions. It is a reactive

service, delivered on the basis of need in response to extreme weather conditions and consequently, it is important in terms of both road user safety and the economy.

The delivery of winter services is denoted in the ‘Winter Service Plan’ and its links with the Strategic Resilient Network will be reviewed on an annual basis.

Data Management and Information Systems

Highways infrastructure asset group inventory and condition data provides the foundation upon which asset management processes are founded and further developed. The quality and completeness of these data sets and their continued update and management is essential to the functionality and processes of asset management. It is therefore imperative that this data be effectively collected, stored, managed and updated.

Telford & Wrekin holds various service core asset data on the following systems and platforms:

Asset Group	Data Set	System
Highways	Network Referencing Model	• XAIS-PTS – "XA"
	Inventory	
	Condition Assessment Data	
	Inspection Data	
	Performance Data	
	Value Management Model	
	Lifecycle Model	
	Condition Projection Model	
	Asset Data / Works Data	
Bridges & Other Highway Structures	Bridge Management Database	• Bridgestation
Flood Risk/Drainage	Section 19 (Flooding Incidents)	• Internal Database • Arc GiS • KaarbonTech
	Drainage assets	
	Works Data	
	Section 21 (Register of Drainage Structures)	
Street Lighting	Street Lighting Asset Inventory	• Mayrise
	Energy (Monthly)	
	Works Data	
	Electrical Testing	
Traffic Signals and ITS	Equipment Inventory	• Imtrac
	Inspection Data	

The collection and updating of this data shall be carried out by trained in-house staff or by external specialist survey organisations accredited in quality data collection processes.

Asset Management Framework

A suite of asset management policy, strategy and process documents are being developed that will form the framework for asset management service delivery in Telford & Wrekin. These relate to the activities and processes that are necessary to develop, document, implement and continually improve asset management and is endorsed by senior decision makers. The framework suite of documents under development and review includes operational policies, lifecycle plans, internal guidance documents etc and are subject to periodic review to ensure a robust approach is adopted towards highway infrastructure asset management service delivery.

Continued Professional Learning

A 'Competencies, Qualifications and Training Strategy' has been drafted which sets out the approach that the Highway Authority will put in place to ensure its highway services continue to be delivered by able, competent and appropriately qualified staff to ensure high standards of service delivery are maintained. It provides a framework and process to ensure that all staff engaged by the Council to work in highways associated services are:

- able, competent and qualified to deliver the work they are engaged upon
- provided with opportunities to develop their competencies through relevant training, development and routes to qualifications
- compliant with the council's competency tests where appropriate
- supportive of a framework for staff retention and the promotion of opportunities and succession planning to manage business continuity.

Competency and training is underpinned by various professional learning activities applied to all levels of highways infrastructure staff as appropriate.

Such training may be addressed and included through the following activities:-

Conferences, training seminars, webinars	Sector network participation
memberships of professional associations	Working groups and innovation events
Professional training courses, peer learning and benchmarking initiatives	Adoption of new or innovative services, products and trials
In-house training & toolbox talks	Supplier briefings and sector news sources

The competency strategy also considers the development of generic and specific competency frameworks as well as a process for identifying, managing and developing competencies.

Strategy Review Process

This strategy shall receive a light-touch review every 2 years and it is then subject to a full strategy review every 4 years reflective of the electoral governance periods, and changes to corporate priorities, themes and objectives at that time. The review shall be in response to developing Central Government, industry initiatives and statutory changes and such changes shall also be applied to the Highway Infrastructure Asset Management Framework suite of documents during their respective review periods.

The Highway Infrastructure Asset Management Strategy is considered to be dynamic working document and as such it will develop and change as the Councils asset knowledge improves and as the Council further develop asset management maturity.

The review process will involve all asset group managers and asset management budget holders. Changes will receive sign-off from the Head of Highways.

Strategy for Telford & Wrekin Key Asset Groups

This overarching Highways Infrastructure Asset Management Strategy shall be applied to the following key highways asset groups. Each of these key asset's groups are subject to evidence-based decision-making processes and strategic considerations shall be applied in support of their respective service delivery processes.

Key Asset Group	Evidence Source	Strategic Considerations
Highway: (Carriageway & Footway)	• Telford & Wrekin Corporate Plan & Priorities. • Stakeholder Interests. • Asset Condition Safety and Serviceability. • Affordability and Whole Life Costs – Budget Optimisation. • Works Coordination, Programming and Deliverability.	• Levels of Service • Performance Monitoring • Desired Outcomes • Lifecycle Planning • Prioritising Investment Decisions • Future Demand
Bridges and Other Highway Structures		
Flood Risk & Drainage		
Street Lighting		
Traffic Signals & ITS		

For each key asset group, the following strategic entities are considered:

- Levels of Service
- Performance Monitoring
- Desired Outcomes
- Lifecycle Planning
- Prioritising Investment Decisions
- Future Demand

Carriageway and Footway

The Telford & Wrekin adopted road and footway networks are key highway assets that are maintained through a combination of reactive safety and routine maintenance repairs, together with planned preventative maintenance treatments and structural maintenance schemes. Condition data for these assets is collected and analysed internally to support the development of indicative three to five year works programmes. These programmes are subject to internal review by the relevant asset leads to consider scheme clashes, opportunities for joined-up working, sequencing of works and the influence of known third-party activities. The proposed programmes are then reviewed through the Council's internal management process prior to formal approval, following which the annual programme is published online. This approach supports an evidence-led and risk-based process for scheme development and selection, helping to balance safety, serviceability, sustainability, deliverability and affordability.

The maintenance management strategy employed in determining how, when and where the roads and footways are to be maintained is implemented reflective of the following considerations, aimed at improving the overall asset condition:

Levels of Service

Levels of Service and their related performance management measures are derived for various aspects of highway asset maintenance service delivery reflective of stakeholder

needs and expectations. They can be derived from works associated with the following range of maintenance activities.

Reactive Safety Maintenance: the definition of how safety defects are identified and actioned is provided in the "Highways Safety Inspection Policy" which is aligned to the Highways Code of Practice 'Well-Managed Highway Infrastructure' October 2016. The identification of safety defects that require urgent maintenance are sourced from a combination of highway safety inspections and from third party reports, e.g., police, public, Ward Members and Council staff. Repair actions and timings are based on a risk-based approach to priority work's needs.

Routine Maintenance: local permanent highway repairs are undertaken in order to maintain the roads and footways up to a serviceable standard and fit for purpose reflective of risk, usage and trafficking. In order to achieve best service level efficiencies, these works are planned and programmed in local areas to promote economies of scale and value for money.
Such works promote the continued safety and serviceability of the highway and act as pre-patching works in preparation for surface dressing and other preventative treatment measures.

Planned Preventative Maintenance: preventive treatment programmes are in part generated from the extensive programmes of routine maintenance patching, part from the annual condition assessments surveys, part from the analysis of SCRIM data in consideration of network hotspots, and in consideration of lifecycle planning treatment milestones and interventions. Preventative treatment programmes aim to capture those parts of the network requiring low-cost early maintenance before more expensive whole surface or structural treatments are required thereby prolonging asset life in support of lifecycle planning initiatives. Such works programmes tend to be derived from the 'lower to mid amber' range of schemes which will address and promote asset safety and serviceability

Planned Structural Maintenance: schemes for reconstruction, strengthening and resurfacing are identified through a process of annual condition evaluations using AEI surveys.

The condition data is modelled to provide a defect condition index and then fine-tuned and prioritised through a 'Value Management' scoring process which includes socio-economic considerations and weightings. Such works address the 'upper-amber' and 'red' zoned priority schemes which will mitigate the adverse effects of the condition performance index.

Performance Monitoring

The measured performance and monitoring of service levels are assessed against set target levels which show how the asset is performing against defined criteria. Service level performance can be industry based or may be derived through stakeholder engagement via customer enquiries and complaints.

Carriageway and footway performance monitoring is derived through the annual condition surveys such as those defined in the industry condition survey manuals which provide the core condition data necessary to process and analyse performance measures through condition index trends.

Performance measures and monitoring can also be achieved by engaging in benchmarking processes with like-minded and comparable Authorities.

Desired Outcomes

Highways services effectively underpin the delivery of most other Council run services and external services, without which the infrastructure, industry and commerce would quickly fall into a state of decline. The desired highway maintenance outcome is to:

- keep the network in a safe and serviceable condition
- prolong its service life as far as is reasonably viable and affordable
- support resilience needs
- provide the highway user with a good travel experience and a pleasant environment in which to live, work and socialise
- promote social inclusion and connectivity provisions
- protect the environment, reduce carbon emissions and promote sustainability

Highway maintenance is undertaken to promote betterment in service condition and to deliver condition performance indicators that equal or better the national average values.

Reactive Maintenance

Where possible, safety defects shall be robustly fixed first time in order to secure an asset repair which needs no further intervention. Where this is not possible, e.g., due either to traffic management needs or street works coordination conflicts or the need to make safe without undue operational delay in order to keep the highway safe, then in these instances urgent temporary safety repairs will be undertaken and these may be followed up with permanent routine repair later as necessary. In practice such temporary repairs may be considered as semi-permanent as they often offer a prolonged service life.

Planned Maintenance

Structural maintenance schemes and preventative maintenance treatment programmes will reflect lifecycle planning initiatives and will inform on future annual budget needs for highway maintenance. Such works will also help mitigate against poor network performance and aim to show a measured betterment via performance indicator figures through the National Indicators. Such measures will be reflected in the Whole of Government Account submissions for annual GRC and DRC. A coordinated strategic approach to planned maintenance provides the correct balance of structural and preventative maintenance needs and secures the most out of restricted annual funding provisions.

Lifecycle Planning

Lifecycle planning and condition projection modelling initiatives look at treatment intervention milestones for various road hierarchies or classes of road. They assist in determining priority works programmes and they provide indicative future works programmes. Such data processing allows for current and future funding investment needs to be determined reflective of levels of service and condition performance criteria.

Budget optimisation modelling allows operational decisions to be made through informed choices and the lifecycle planning data sets will be continually updated and monitored in the highways asset management system.

Prioritising Investment Decisions

Prioritising investment decisions is a crucial aspect of financial planning and management of the infrastructure assets. The process involves evaluating various investment options based on their potential returns, risks, and alignment with overall goals and strategies. In

the management of carriageways and footways the budget is split reactively and planned. Prioritisation takes place within the defined budget heads.

Reactive Maintenance

Reactive maintenance intervention and investment are determined to secure quality and robust safety and serviceability repairs reflective of a risk-based and affordable approach to service delivery. Defect investigatory levels are in accordance with the 'Highways Safety Inspection Policy", and actionable defect and repair criteria are reviewed in order to secure cost-effective ways of delivering value for money alongside affordable and sustainable highways services.

Planned Maintenance

The priority investment processes for planned schemes is a two-stage process driven firstly by the condition status of the highway and then fine-tuned by 'Value Management' and risk evaluations. The annual scheme selection process identifies the schemes most important to Telford & Wrekin Council for priority maintenance funding and delivery. This process also recognises the maintenance needs for many other schemes on the network that are not sanctioned for delivery due to annual funding constraints, such schemes are re-evaluated the following year. Pending eventual scheme selection, those schemes not making the annual programme cut will continue to be safety inspected, monitored and placed under reactive maintenance regimes. Higher risk sites may also be subject to increased safety inspections pending eventual scheme selection.

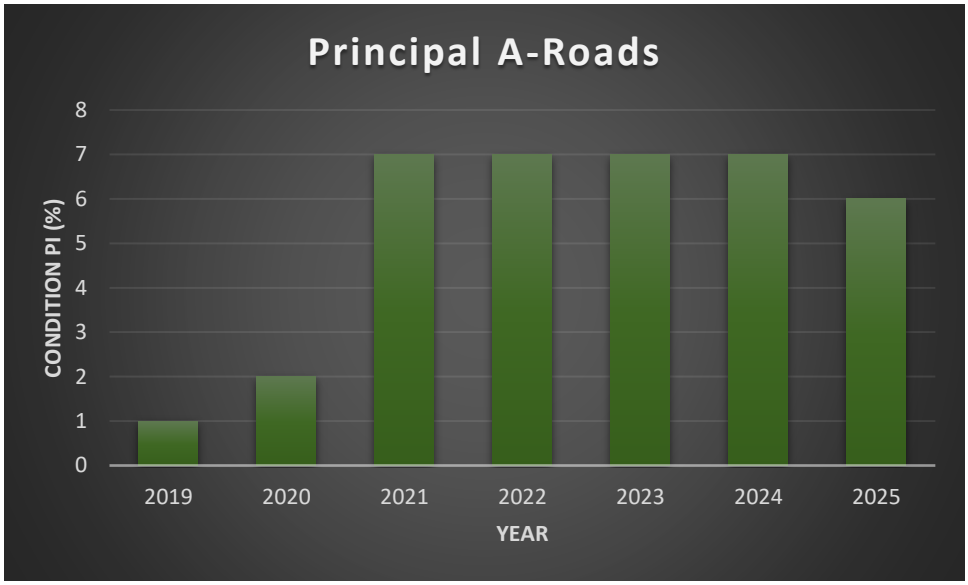
Future Demand

All motor vehicle traffic growth in Telford & Wrekin has marginally decreased in the period 2019 to 2024 from 955.7 million vehicle miles to 949.2 million vehicle miles, showing a slight decrease of 6.5 million vehicle miles over this time period but with an apparent rising trend after the period and influence of Covid decline from 2019 to 2021 (ref source data: Road traffic statistics - Local authority: Telford & Wrekin).

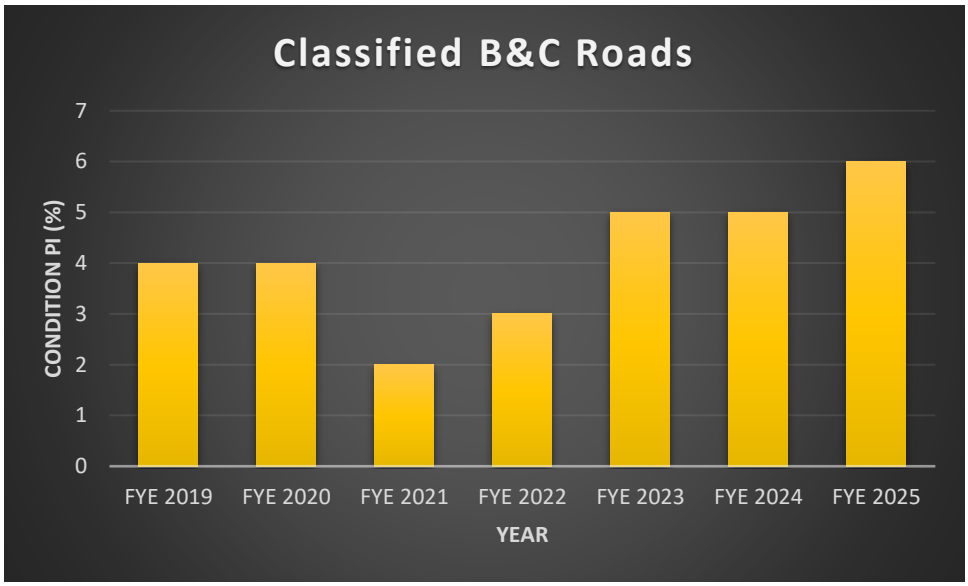
In the period 2019 to 2025 the road degradation effects relating to the percentage of Classified A, B and C roads where maintenance should be considered have worsened in condition trend, this is reflective of a change in survey approach from SCANNER to AEI. Conditions have presently stabilised with improvements to the Principal A Road network

reflective of recent investments into Strategic Roads. Over this same period from 2020 the unclassified roads in Telford & Wrekin where maintenance should be considered has shown a step change improvement and the trend again indicates a level of condition stability at this time….see below (ref source data: Road condition statistics: data tables (RDC) - GOV.UK)

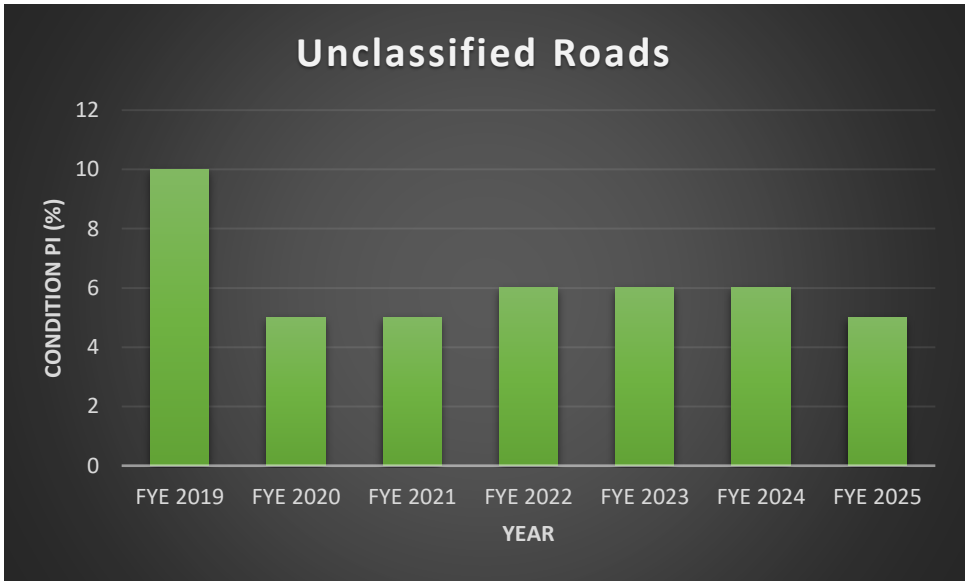
Percentage of Principal A Roads where maintenance should be considered.
(2019 to 2025):



Percentage of Classified B&C Roads where maintenance should be considered. (2019 to 2024):



Percentage of unclassified roads where maintenance should be considered. (2019 to 2024):



By adopting transparent and objective priority works processes, good highway investment planning and programming regimes, and better customer communication protocols, highway stakeholders will gain better clarity of what can realistically be expected, afforded, and delivered within annual budget and engineering resource constraints and how future schemes are evaluated, prioritised, and selected.

Future investment needs will be informed by a consideration of lifecycle planning protocols and condition projection modelling and through budget optimisation via highway investment planning, reflective of highway safety, serviceability and sustainability demands aligned to Telford & Wrekin's Council Plan 2024/25 to 2026/27 and Local Plan 2020-2040 and their key principles and community priorities.

The overall performance and condition of Telford & Wrekin's road network can vary considerably year on year reflective of maintenance investment deficiencies, works planning and implementation constraints. These entities need to be addressed in order to create a road network that is serviceable, sustainable and fit for purpose, reflective of future stakeholder demands of the needs of the service.

Bridges and Other Highway Structures

Telford & Wrekin Council owns and maintains 250 highway bridges, culverts and subways, together with approximately 200 retaining walls, which together form a vital part of the borough's highway infrastructure.

The Council undertakes both General (GI) and Principal Inspections (PI) of highway structures in line with recognised best practice and national standards. The inspection regime provides the foundation for effective asset management, allowing the condition, performance and risks associated with each structure to be understood and managed. Maintenance and intervention works are prioritised using a risk-based approach, ensuring that available resources are targeted where they deliver the greatest benefit. Public safety remains the highest priority, with decisions informed by structural condition, usage, consequence of failure and long-term sustainability of the overall asset.

Levels of Service

Reactive Safety Maintenance

Reactive safety maintenance is undertaken to address defects that present an immediate or emerging risk to public safety, network availability, or the integrity of highway structures. Defects may be identified through inspections, reports from the public or stakeholders, or following adverse weather events or third party impacts. The Council responds to such issues in accordance with its established procedures, taking account of the level of risk and

the need to maintain public safety and network operation. Reactive maintenance remains a necessary element of the asset management approach, enabling unforeseen deterioration to be addressed promptly and public safety to be maintained.

Routine Maintenance

Routine maintenance is undertaken to preserve the condition and functionality of highway structures and to slow the rate of deterioration over time. Activities typically include minor repairs, vegetation management, drainage maintenance, cleaning, and other low-cost interventions identified through inspections or local monitoring. These works are planned and delivered to support the safe and reliable operation of the highway network, reduce the likelihood of defects escalating into safety critical issues, and extend the service life of the asset base. Effective routine maintenance forms an integral part of the Council's asset management approach, contributing to improved whole-life value and more sustainable long-term management of structures.

Planned Structural Maintenance

Planned structural maintenance comprises programmed, larger-scale works aimed at addressing structural deterioration, improving performance, and extending the service life of highway structures. These interventions typically include significant repairs, strengthening, component replacement, and other capital works identified through inspections, assessments, and prioritisation processes. Schemes are developed in advance and delivered in a planned manner to manage risk, optimise whole-life value, and reduce the likelihood of unplanned or reactive interventions. Planned structural maintenance plays a key role in sustaining the long-term resilience, safety, and functionality of the Council's structures asset base.

Planned Preventative Maintenance

Programmes of preventative maintenance are undertaken on component parts of structures that have a finite life e.g., bridge expansion joints, bearings, paint systems. If undertaken in a timely manner, they extend the working life of structures.

Performance Monitoring

The performance of the bridges and structures asset is monitored using recognised condition indicators, including Bridge Condition Index (BCI) scores, supported by inspection findings and engineering judgement. BCI data provides a consistent measure of condition across the asset base and is used to track deterioration trends over time. This information supports maintenance prioritisation and investment planning, enabling informed decisions to manage risk and sustain the long-term condition of highway structures.

Desired Outcomes

The Council's approach to the management of bridges and structures seeks to ensure that assets are safe, reliable, and fit for purpose, while delivering best value over their whole life. Through effective inspection, maintenance, and investment planning, the Council aims to manage risk proportionately, minimise disruption to the highway network, and slow the rate of asset deterioration. The desired outcomes are improved asset resilience, informed decision-making, and the sustainable use of resources to support the long-term performance of the bridge stock.

Lifecycle Planning

A lifecycle planning approach to the service delivery of bridges and other highway structures is being considered. Whilst this may possibly be applied to specific asset components such as the need for cyclical painting or the inspection and cleansing of culverts, subways and the like, the general repair and maintenance of highway bridges and structures tend to be based on reactive maintenance considerations via highway safety inspections and customer notifications or for planned works via the general and principal inspections.

The long-term planning for highway structures is to ensure that structures inventory and condition data meet the minimum requirements of the Structures Asset Valuation & Investment (SAVI) toolkit which projects condition and cost using generic and published deterioration rates for all structures element types and it accommodates the ability to plan fixed maintenance interventions at specific years. This provides a picture of deterioration and when interventions would ideally be done.

Prioritising Investment Decisions

Investment needs for bridges and structures are identified through the General and Principal Inspection programmes, which establish the nature and extent of defects across the asset base. The requirement for intervention is determined using a risk-based approach that considers the severity of defects, their location, and the importance of the structure to the highway network. Planned maintenance schemes are then prioritised with regard to network criticality, value for money, resilience impacts, and deliverability, taking account of design requirements, approvals, and traffic management constraints.

Future Demand

Future demand on bridges and structures is influenced by increasing traffic volumes and vehicle weights, which can accelerate deterioration, particularly in older assets. A robust inspection and reporting regime provides the evidence needed to understand these pressures and to target investment effectively. Ongoing engagement with relevant service areas and stakeholders supports a more informed and coordinated response to emerging demands on the structures asset base.

Drainage and flood risk management are crucial aspects of environmental engineering and urban planning, designed to control and manage water to reduce looding and to ensure that urban and rural areas have adequate drainage. Effective management strategies promote resilience and reduce flood risk to communities, infrastructure, critical assets and the environment from the potentially devastating effects of uncontrolled water. The approach to drainage and flood risk management is multi-faceted, involving a combination of technical, structural, and natural methods. The main asset for highways is the highway gully for which Telford & Wrekin Council manage and maintain approximately 36,000 road gullies and around 1,000 footway gullies.

Levels of Service

Reactive Safety Maintenance:

The identification of safety defects is from a combination of safety inspections which are carried out in conjunction with the highway inspection programme, defect identification during routine gully cleansing, and reports from third parties e.g., police, public, Ward Members.

Emergency and urgent safety repairs may be temporarily made safe and protected until appropriate permanent repairs can be carried out.

Safety repairs are carried out within the designated service level response timeframe.

Safety repairs are normally rectified in the first instance, however where this is not possible, for example due to traffic management needs, site availability, or the availability of products, materials or resources, the asset will be made safe without delay and followed up with permanent repair at a later time.

Non-urgent drainage repairs are treated as planned works and are undertaken reflective of a risk-based approach to maintenance needs. When necessary, the use of signage or road closures may be required to ensure public safety is maintained.

There has been an increasing occurrence of gully grate thefts around the Borough in recent times and these are dealt with as emergency safety repairs followed up by their permanent replacement using anti-theft gully grates, this is having a significant impact on annual maintenance funding provisions.

Routine Maintenance

Routine maintenance is carried out on a reactive basis centred on reports from external bodies, members of the public and as identified during highway asset inspections. Repairs and cleansing are carried out as required to ensure the highway is safe to use and water can be conveyed away from the surface. Repairs are undertaken in order to bring the highway and drainage system to a serviceable standard and fit for purpose reflective of risk, usage and trafficking.

Planned Maintenance

Planned maintenance is generally identified from asset inspections and condition surveys allowing us to plan and undertake major works to create solutions whilst looking ahead to future requirements to ensure drainage systems are functioning and fit for purpose.

Cyclical Maintenance

Regular maintenance is carried out to ensure assets remain functional and serviceable to prevent disruption to users of the highway. A routine cyclical gully cleansing programme of highway drainage assets operates continually.

Telford & Wrekin has run a risk-based approach to gully cleaning since 2022. Gully cleaning frequencies are identified based on factors including silting rates, road categories and modelled flood risk. From this, cycle frequencies are established, with the highest risk

gullies being cleansed on a quarterly basis, then 6 monthly, annually, two yearly and lower risk gullies being cleaned every four years.

Looking ahead to the future

The current risk-based approach continues to be monitored and refined. Work is underway to map more assets e.g. highway catchpits and manholes and establish cyclic programmes for these.

Performance Monitoring

Gully cleansing is monitored at a service level on a weekly basis, and at a contract level on a monthly basis. Random inspections and defect inspections are undertaken. Reactive maintenance is undertaken reflective of a risk-based approach to service delivery.

Desired Outcomes

The desired outcome of drainage and flood risk maintenance management is to ensure the highway network is safe to use and predominantly free from excessive standing water and the effects of flooding. Through the collection of asset inventory and inspection/condition surveys, future maintenance needs can be planned and undertaken to preserve and promote asset serviceability and network resilience.

Known areas of flood risk are registered and in the event of extreme weather conditions, such as heavy and prolonged rainfall, the likely affected drainage assets are on higher cleansing frequencies

Lifecycle Planning

Lifecycle planning is an aspect that the Flood Risk Team consider for maintenance and design of new systems, however there are challenges applying an LCP approach to existing assets due to lack of asset information and ongoing challenges from third party damage. Currently, drainage assets are generally being repaired or replaced on a reactive risk-based basis and reflective of capacity and funding provisions when the Council become aware they are defective or have reached their end of serviceable life. This is particularly relevant to the drainage service needs on the resilient road network reflective of its ability to cope with changing and more extreme weather patterns.

Presently, lifecycle planning considerations for the determination of future drainage maintenance needs is not generally feasible from the level of drainage asset data/knowledge that is held, however the predictive modelling of gully silt levels may in the future allow us to adopt a more proactive and selective approach to gully cleansing lifecycle maintenance thereby producing financial and resource availability benefits.

Prioritising Investment Decisions

Investment in flood risk and drainage maintenance needs to be sustained in order to ensure assets are functional and are delivered based on a value for money approach.

Flooding matters are prioritised primarily to protect asset resilience, essential critical infrastructure, residential property and business and to facilitate the uninterrupted use of the highway network. Investment is targeted to the highest priority schemes identified as budget allows.

The continued resolution of known historical flooding incidents will be undertaken whilst adopting a planned maintenance approach to future works programmes, which will ensure resources are used effectively and efficiently. The use of technology and pragmatic engineering processes can ensure that stakeholder's priorities and customer demands are met, subject to annual funding provisions and resource availability.

Future Demand

As the population expands and the housing stock grows, this will result in consequential traffic growth and the size of the highway network will increase accordingly along with the highway drainage and flood risk infrastructure, thereby increasing pressure upon budgets, resources and future maintenance needs.

Climate change is also an important factor to be considered in future demands and priorities. Whilst the impact of increased short duration storms on the highway drainage system is accounted for in the design of new developments and their highway drainage assets, the existing drainage systems will however need to be maintained and upgraded to remain effective and operational, this will require significant future planning and investment.

Telford & Wrekin presently has over 25,000 lighting points installed, providing lighting on arterial roads, bus routes, residential streets and footpaths including around 2,500 street lights owned by parish councils. Through a combination of new housing developments and planned column replacement programmes, the lighting stock grows annually due to new adoptions. There are also over 500 illuminated bollards and around 1,400 signs maintained by the Street Lighting department.

The council is committed to the provision and maintenance of quality and well-maintained street lighting as this helps reduce crime and improves public safety. The public are encouraged to report any defective street light issues to the department to promote safety, security and well-being. Stakeholders can report a faulty streetlight at Contact - Street Lighting - Telford & Wrekin Council

Levels of Service

Telford & Wrekin make every effort to maintain all streetlights in and around the Council area but sometimes due to faults/failure or vandalism, streetlights will stop working.

Lighting repairs are carried out throughout the year as part of reactive maintenance and electrical tests are concurrently carried out by council's term service contractor. The target time for carrying out a repair is 7 working days.

Faults caused by loss of supply are targeted to be repaired in line with the service level agreement with the local distribution network operator and should not exceed 25 working days.

There is a programme of lighting column replacement addressing the deteriorating condition of old concrete columns.

The Street Lighting team operate a 24/7/365 emergency service responding to equipment knock downs.

A street lighting LED replacement programme is ongoing which is circa 95% complete. This will realise a significant energy, cost and maintenance saving and it will considerably prolong the serviceable life of the street lighting stock.

Performance Monitoring

Telford & Wrekin monitors its own performance on a quarterly basis and the results are uploaded to the internal reporting system. Any performance issues are scrutinised, and programmes of improvement implemented.

Desired Outcomes

The desired outcome is that Telford & Wrekin's roads and footpaths are illuminated to promote safety and security, and lighting columns are structurally sound with a planned column replacement programme that at least matches the rate at which columns come to the end of their design life.

Lifecycle Planning

The current life specification of the lighting columns is for 40 years. On average 150 lighting units may be programmed and budgeted for annual replacement reflective of anticipated

asset life expectancy. Any new columns installed eg. from new developments, will increase the future replacement requirements of the stock and will be included in the lifecycle plan.

Prioritising Investment Decisions

Telford & Wrekin Council have a central management system on which lighting outages are reported daily. Every failure and lost connection is attended as part of the reactive maintenance protocols. At every visit a visual inspection report is recorded onto the asset management system with regards to the column condition, from this any high-risk columns are identified and programmed for replacement.

The Council undertakes a 6 yearly electrical periodic testing programme of its street lighting assets, during this visit the luminaire lens is also cleaned. The authority has embarked on a full structural assessment of its columns; based on the results of these inspections a full replacement programme will be devised.

Street lighting investment is required to address policy on carbon and energy reduction and integrate with Council Policy in other areas such as “Smart Networks” addressing Wi-Fi and Smart phone innovations & any connection requirements.

A consideration of asset lifecycle milestones shall be adopted as an indication of future asset replacement and funding needs. If upon inspection the lighting asset is performing satisfactorily, a decision may be taken to ‘sweat’ the ongoing serviceability of the asset to defer its replacement until the next inspection review.

Future Demand

As new housing developments grow, and the road network length increases, there will be a corresponding increase in the demand for street lighting and additional operational resources and funding provisions will be required as the lighting asset increases

Lighting columns may also be utilised in support of other ancillary services such as banner advertising, CCTV & smart cities requirements.

Traffic Signals

Traffic signals are a signalling device positioned at road intersections, pedestrian crossings, and at other locations to manage vehicular traffic and non-motorised road users by providing clear instructions about when to stop and when to proceed The primary aim of traffic signals is to enhance road safety, improve traffic flow, and reduce the risk of collisions at intersections and crossing points.

Levels of Service

Telford & Wrekin's traffic control equipment currently comprises of 54 traffic signal junctions and 71 signalised pedestrian crossings. In addition the Council operates 12 RGBW variable message signs and two automatic rising bollards on the highway and a network of over 30 CCTV cameras for traffic monitoring.

The Council also operates a Swarco MyCity platform as well as local enhanced software control techniques like MOVA and Swarco ImFlow.

Both reactive and preventative maintenance services are provided via a comprehensive external contract, with defined and categorised response and repair times, scheduled routine operations, and facilities for planned site refurbishments.

Stakeholders can report an issue at: How do I report? - Traffic lights - Telford & Wrekin Council

Reactive Maintenance includes dealing with the occurrence of day-to-day incidents, emergencies and faults.

Preventative Maintenance includes annual periodic electrical and operational inspection and testing, bulk lamp changing and equipment cleaning.

Performance Monitoring

Traffic signals performance monitoring is accomplished primarily through the 'Imtrac' fault and asset management system, through inspection and test regimes, contract management arrangements and via the performance measurement of traffic signals repaired within agreed timescales.

Desired Outcomes

Asset maintenance management is undertaken to avoid network delays and disruption and to secure the safe and expeditious movement of vehicular and pedestrian traffic on the road network for many road users on a daily basis. This in turn contributes to network accessibility, journey time efficiencies, effective travel experiences, public transport punctuality, good road safety performance and improved public perception.

Lifecycle Planning

Modern traffic signal equipment generally has an expected lifetime of around 20 years. In addition, older equipment can become obsolete or more unreliable. The process of lifecycle planning allows the funding requirements for the planned provision of replacement units to be effectively managed and budgeted for.

In addition, an ongoing programme of reactive asset refurbishment is in place, which is based on fault rates, energy consumption and physical asset condition, which prioritises works on a worst first basis.

Prioritising Investment Decisions

Reactive maintenance operations are prioritised depending on the urgency or severity of a fault. For example, traffic signals out of operation or physically damaged such that they present danger are prioritised for immediate repair.

Planned refurbishment work is undertaken based on relative levels of physical condition, fault rates, obsolescence, electrical safety and energy consumption. Indicative lifecycle milestones reflective of equipment age and the inspection regime will also inform the asset replacement prioritisation process.

Future Demand

Traffic growth levels, new developments, redevelopment and regeneration projects, alongside expectations for safer roads and enhanced facilities, often lead to a greater demand for traffic control solutions.

It is essential that investment is sustained in maintaining the expanding and ageing stock to ensure that road users benefit from the latest technology in terms of detection and signal operation and that non-motorised road users benefit from new design standards to improve the travel experience for those not using a private car.