ENFIELD Council

Highway Infrastructure Asset Management Plan

Updated October 2025

FOREWORD

Councillor Rick Jewell

Cabinet Member for Environment

The purpose of this Highway Infrastructure Asset Management Plan (HIAMP) is to have a live document that will have concise information about Enfield's highway assets.
A copy of this HIAMP can be found on the Council's website.

HAMP Module I – Executive Summary

Overview… Enfield manages and maintains the highway assets falling within our 585km of highway network. With responsibility to ensure the highway assets are fit for purpose and able to fulfil their function in an efficient and sustainable manner.

Enfield Council Plan 2023-2026 outlines the aim to deliver a lifetime of opportunities for everyone through 5 core priorities and 5 cross cutting principles:

Core Priorities

- Clean and greener places
- Strong, healthy and safe communities
- Thriving children and young people
- More and better homes
- An economy that works for everyone
- Cross Cutting Principles
- Fairer Enfield Council
- Accessible and responsive service
- Financial resilience
- Collaboration and early help
- Climate conscious

To achieve this, Enfield has identified corporate aims relevant to our highways, within the Plan such as:

- Enable active and low carbon travel Facilitate reuse of materials
- Develop town centres that are vibrant, healthy and inclusive.

These are achieved through a policy supported by objectives to ensure focus is kept on what matters most to Enfield in managing highway assets and the community's needs.

Enfield has adopted several asset management practices to ensure the largest benefit for the whole community is achieved. Asset management best practices require a look into long-term investments to make best use of resources and ensure right interventions are implemented at the most effective time to ensure a safe highway, a statutory requirement.

Overall performance... Enfield manages our network performance through performance indicators, which are aligned to and contribute towards achieving the Council's corporate vision and objectives laid out in the Mayor's Transport Strategy. Performance management demonstrates effective use of the Council's budgets.

Investment... In 2025/26 Enfield had a total budget of £6 million, of which £4.5 was capital expenditure, £1 million is funded by the Department for Transport (DfT), and £1 million was revenue expenditure. The backlog of required maintenance to bring its highways up to a good standard is estimated to cost in the region of £50m.

Engagement…

Enfield engages with a number of key stakeholders to inform our decision processes. This ensures the social and economic benefit of the use of the road network is recognised. Such consultations help establish and prioritise an annual works programme considering the stakeholder's most important considerations.

Progress... Enfield is determined to develop and implement a continuous improvement programme to enhance our asset management processes, systems and data, and support effective delivery of our desired asset management outcomes. These outcomes will be reported periodically to key stakeholders, drawing together progress, performance and investment impact.

HAMP Module II – Contents & Glossary

Module I	**Executive Summary** Summarising the key facts and figures from the HAMP	V2.0	October 2025
Module II	**Contents** Outlining the modules held within the HAMP	V2.0	October 2025
Module III	**Context** Setting out the parties, documents & reporting processes involved in managing highway assets.	V2.0	October 2025
Module A	**Management and Organisation** Explaining the structure behind the asset management principles applied.	V2.0	October 2025
Module B	**Levels of Service** Explaining the approach to maintenance over the lifetime of assets.	V2.0	October 2025
Module C	**Communications and Stakeholder Engagement** Outlining the approach to internal and external communications	V2.0	October 2025
Module D	**Finance** Identifying funding sources and historical expenditure.	V2.0	October 2025
Module E	**Investment Strategies and Lifecycle Planning** Understanding the impact of different levels of investment.	V2.0	October 2025
Module F	**Delivery Programmes** Developing the programme of works that will be delivered.	V2.0	October 2025
Module G	**Asset Knowledge** Collecting and managing data.	V2.0	October 2025
Module H	**Highway Hierarchy and Network Model** Developing priorities for maintenance and hosting asset data	V2.0	October 2025
Module I	**Performance Management and Monitoring** Establishing goals for asset management performance that can be delivered	V2.0	October 2025
Module J	**Asset Valuation and Reporting of Infrastructure Asset Values** Assessing the value of the highway assets	V2.0	October 2025
Module K	**Climate Action and Sustainability** Considering the impact of flooding on highway assets.	V2.0	October 2025
Module L	**Resilience and Response for Adverse Weather** Managing the highway network in times of extreme weather and other emergencies.	V2.0	October 2025
Module M	**Future Demand and Adaptability** Understanding how maintaining the asset will evolve with future changes.	V2.0	October 2025

HAMP MODULE III - CONTEXT

What... Asset Management is a best practice approach to maintaining highway infrastructure assets. Long-term investment is needed to deliver Enfield's vision of creating healthy streets, parks and community spaces.

Enfield seeks to optimise resource allocation for the maintenance and operation of highway assets. Using a practical approach, and prioritised investment, the appropriate interventions – whether reactive or proactive – can be implemented in a timely manner to ensure a safe highway.

Why... Enfield looks to maintain and enhance our road network, associated spending of public money must demonstrate value and be aligned to the needs of residents, local businesses and visitors. To help achieve best value, Enfield strives to be a Council that engages effectively with residents and businesses and demonstrates a clear understanding of community needs by using feedback to inform decisions.

By ensuring key facilities have the right level of accessibility and are maintained to a safe standard Enfield will satisfy its statutory duties as set out in the Highways Act (1980) and other legislation (Table III.1).

With a long-term investment plan, Enfield can schedule maintenance work to be more cost effective through a combination of surface treatments and major resurfacing works e.g. potholes and footway defects. The economies of scale of such maintenance works drives down the whole life cost of maintaining the highway, as well as extending the life of the asset.

Carriageway assets: *A typical 1m^2 pothole costs around £100 to repair (including management costs), while it costs around £25/m^2 for single coarse preventative treatments and £40/m^2 for deeper treatments to resurface a road to last for 20 years.*

Footway assets: *A typical 1m^2 footway defect cost is around £100 to repair reactively, while it costs around £120/m^2 to resurface a footway, a significantly longer lasting treatment.*

Other assets that are essential for the operation and function of Enfield's highway network include: highway structures, street lighting, street furniture, cycleways, highway trees, grass verges and drainage.

Who... The responsibilities for the 'Context' module lie with:

Overall reporting	**Head of Highway Operations**
Updating & reporting module	**Principal Asset Manager**

How... Through reviewing guidance and tools developed by the DfT, HMEP, UKRLG, IAM and ISO55000; a global standard for asset management, Enfield can assess how best to implement asset management. Enfield can then adapt our approach to reflect council policies and objectives.

Reporting... To ensure investment and outcomes remain effective, this HAMP provides a suite of measures to explore and demonstrate success or otherwise. From this, improvement actions can be developed and benchmarked with other LoHEG Boroughs.

Success Measures... A dynamic asset management approach to managing Enfield's highway assets will show continuous improvement, and a drive towards maintaining the Council's highway network efficiently. Aligned with investment planning, this approach will deliver demonstrable benefits to the community, achieving performance

improvement targets and maximising the benefit of capital investment and revenue expenditure.

The following activities will be essential to measure the efficacy and justifiable benefit of asset management:

- A periodic Asset Management Maturity Assessment (AMMA) and the associated reporting to ensure progress towards the stated objectives.
- Regular monitoring of progress against key targets / measures such as expenditure figures against investment strategies to track the efficiency of budget spend.

Review and monitoring processes should ensure highway aims and objectives remain aligned with corporate and political aims. The relevant modules within the HAMP will be revised as required to reflect any changes.

Further Information:
HMEP/UKRLG – Maintaining a Vital Asset
ISO55000 – Asset Management
UKRLG – Highways Infrastructure Asset Management Guidance Document

Table III.1: Legal framework supporting asset management principles and practices.

Legislation	Main Local Authority duties
Highways Act 1980	• To maintain highways maintainable at public expense. • To take such steps as considered reasonable to prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads. • To enable new roads to be provided to facilitate redevelopment • To facilitate the adoption of new highways. • To deal with encroachment and obstruction on the highway. • To deal with illegal and unauthorised signs. • To issue permits for utilities, skips, hoardings, temporary closures and other authorised occupation of the highway. • To ensure the construction of vehicle crossings meet council policies and standards. • To deal with illegal parking on verges and footways
Traffic Management Act 2004	• To ensure the expeditious movement of traffic on the road network and those networks of surrounding authorities. • To manage the Highway Register. • To deal with encroachment and obstruction on the highway. • To deal with illegal and unauthorised signs. • To issue permits for utilities, skips, hoardings, temporary closures and other authorised occupation of the highway. • To the construction of vehicle crossings. • To deal with illegal parking on verges and footways. • To the adoption of new highways.

Legislation	Main Local Authority duties
New Roads and Street Works Act 1991	• To enable new roads to be provided by new means. • To make new provision with respect to street works.
Flood and Water Management Act 2010	• To improve flood risk management and the way we manage our water resources. • To adopt a leading role for local authorities in managing local flood risk (from surface water, ground water and ordinary watercourses).
Wildlife and Countryside Act 1981	• To comply with environmental and countryside when undertaking highway maintenance operations.
The Local Government Act 2003	• To adopt best value practices. • To adhere to the defined statutory framework of BVPI.

Table III.2: Ownership and reporting of modules.

Module	Responsible	Version	Next Review
I – EXECUTIVE SUMMARY	Head of Highway Operations	V2.0	2026
II – CONTENTS & GLOSSARY	Principal Asset Manager	V2.0	2026
III - CONTEXT	Principal Asset Manager	V2.0	2026
A - MANAGEMENT AND ORGANISATION	Principal Asset Manager	V2.0	2026
B - LEVELS OF SERVICE	Principal Asset Manager	V2.0	2026
C - COMMUNICATIONS AND STAKE HOLDER ENGAGEMENT	Principal Asset Manager	V2.0	2026
D - FINANCE	Principal Asset Manager	V2.0	2026
E - INVESTMENT STRATEGIES AND LIFECYCLE PLANNING	Principal Asset Manager	V2.0	2026
F - DELIVERY PROGRAMMES	Principal Asset Manager	V2.0	2026
G - ASSET KNOWLEDGE	Principal Asset Manager	V2.0	2026

H - HIGHWAY HIERARCHY AND NETWORK MODEL	Principal Asset Manager	V2.0	2026
I - PERFORMANCE MANAGEMENT AND MONITORING	Principal Asset Manager	V2.0	2026
J - ASSET VALUATION AND REPORTING OF INFRASTRUCTURE ASSET VALUES	Principal Asset Manager	V2.0	2026
K - CLIMATE ACTION AND SUSTAINABILITY	Principal Asset Manager	V2.0	2026
L - RESILIENCE AND RESPONSE FOR ADVERSE WEATHER	Principal Asset Manager	V2.0	2026
M - FUTURE DEMAND AND ADAPTABILITY	Principal Asset Manager	V2.0	2026
N - STREETSCAPE AND BIODIVERSITY	Principal Asset Manager	V2.0	2026
O - SKILLS AND COMPETENCIES	Principal Asset Manager	V2.0	2026
P - BENCHMARKING AND CROSS BOROUGH WORKING	Principal Asset Manager	V2.0	2026
Q - IMPLEMENTATION AND IMPROVEMENT PLAN	Principal Asset Manager	V2.0	2026

Module A - Management and Organisation

What... The AM Management and Organisation represent the structure of the current approach to asset management adopted by Enfield. It provides a common reference point for all personnel engaged in highway maintenance activities about how AM principles are applied. Understanding this framework allows for a core asset management team to be formed, capable of all functions of Enfield's operations to provide an efficient service delivery. Hence, the framework informs on the activities and processes required to develop, document, and continually improve asset management practices.

Why... The AM framework covers all aspects of asset management, explaining where maintenance will occur, the reason why and the processes involved. It allows Enfield to establish high-level drivers to maintain the highway's assets, linking corporate objectives to operations and delivery. As such, it applies a performance-based approach to setting service levels that seeks to maximise investment by concentrating on end-user relations. For example: minimising multiple disruptions, improving the connectivity and continuity of all the highway's assets, with opportunities to upgrade the streetscape and highway safety.

Who... The responsibilities for the 'Asset Management Framework' module lie with:

Overall reporting	**Head of Highway Operations**
Updating & reporting module	**Senior Asset Management Technician**

How... The structure of the asset management framework outlined in Figure B1 shows how Enfield's highway policy, strategy, plans and procedures would link together to achieve visibility and clarity of the key driving factors in maintaining a sustainable highway asset.

The framework's key components are:

- *Highway Policy & Strategy* – A high level summary, with political input to set out corporate objectives. High-level drivers are established, aimed at maintaining assets, and links corporate objectives to delivery.
- *Asset Management Plan* – Building on the foundations of the policy and strategy, this provides the *'what'* and *'how'* for managing each asset.
- *Individual Asset Plans* – Dictates the key maintenance approaches for each of the assets, linked to the overall Plan, Strategy and Policy.
- *Operating Policies & Procedures* – The operating policy sets out the asset-specific goals, which link to the highway objectives and in turn the corporate goals. The operating procedure then outlines how each goal will be achieved.

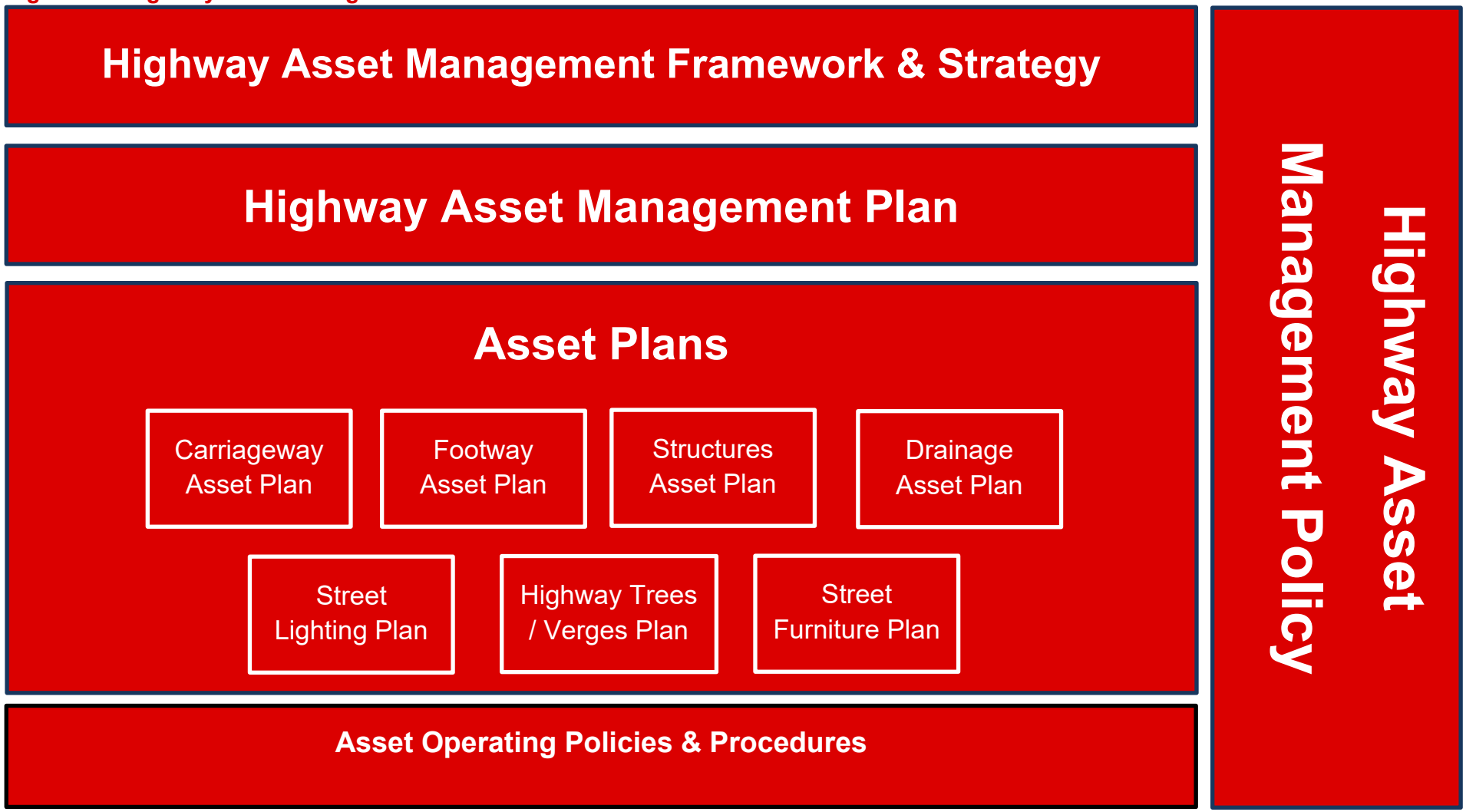
Reporting... This HIAMP provides a concise and accessible reference for external parties interested in how Enfield maintains local highway assets.

This HIAMP will be regularly reviewed and updated when triggered by a change in policy, procedure or an update to the Code of Practice.

Success Measures... The recognition and adoption of this asset management approach will be reflected in other council documents and measured improvements to the highways network. Check table for updated

Further Information:
HMEP/UKRLG – Maintaining a Vital Asset
ISO55000 – Asset Management
Highways Infrastructure Asset Management Guidance Document UKRLG 2016

Figure A1: Highway asset management framework



MODULE B – LEVELS OF SERVICE

What... Defined Levels of Service are required to develop an optimised maintenance strategy to manage and treat asset groups. These treatments are decided by finding the most efficient means of balancing resources to meet performance targets, based on whole-life-cost analysis.

Why... To create a suite of treatment options that can be drawn upon for the asset type and condition. Benefits include:

- Optimised allocation of resources allowing the Council to maximise value for money.
- A consistent aesthetic and performance standard across Enfield.
- Benchmarking and comparing new treatment options on the market.
- A better understanding of how assets and treatments behave over time.

Who... The responsibilities for the 'Asset Management Framework' module lie with:

Defining strategy & hierarchy	**Head of Highway Operations**
Whole-life-costing	
Updating & reporting module	**Senior Asset Management Technician**

How... Enfield uses a risk-based approach to asset management based on decision trees applied to determine the most suitable treatment type to be adopted for common asset groups, as shown in Table B1.

This decision demonstrates the various criteria considered when selecting a maintenance treatment. For carriageways and footways these are:

- Road hierarchy, which represents a specific traffic loading / priority category.
- Construction type, which determines the likely defects to be present.
- Predominant defect visible, which establishes the depth of the required treatment.
- Profile adequacy, which determines whether vertical realignment is necessary.
- Cumulative defect size, which outlines whether the treatment should be carried out under the Council's reactive or planned maintenance procedures.

The various treatment options are assessed for the best whole-life-cost solution, based on performance and cost. This approach lends itself to ensuring different strategies for different asset types provide a 'right for asset' approach to long-term maintenance, accounting for local context.

For structures Enfield's maintenance strategy is based on each structure's condition from the inspection survey results index (BCI). This helps to justify the investment required to improve the structure stock to the required level and maintain it at that level.

Reporting... Maintenance strategies are reviewed periodically, or when new treatment options come on the market. They are investigated through investment modelling exercises and business cases as an integral element of HAMP module G - Investment Strategies.

Success Measures... To be able to demonstrate an on-going reduction in the whole-life-cost of asset maintenance, using the most efficient maintenance strategy for the particular asset group. Check TABLE

Further Information:
DMRB Volume 7 – Pavement Design and Maintenance

Table B1: The decision tree of preferred maintenance strategies.

Asset	Safety Intervention	Temporary Repair	Permanent Repair
Carriageways	50mm pothole	Cold applied material Low cost, low life expectancy.	Saw cut and patch with hot applied material By hand – medium cost, medium life expectancy. By machine – high cost, high life expectancy.
Cycle Lanes	25mm pothole		
Footways	25mm pothole		
	25mm movement in slab / block	Make safe	Remove and relay slab / block
Asset	**Subgroup**	**Interim Intervention**	**Major Intervention**
Carriageways	BPRN (TfL Funded)	Plane and Inlay – Shallow Treatment - 40mm Thin Surfacing (concrete roads) – 25 - 30mm Rural roads – surface dressing	Partial reconstruction –200mm to 240mm Plane and Inlay – Deep Treatment –100mm
	Hierarchy 2,3,4 & 5		
Cycle Lanes	Cycle Lanes	Plane and Inlay – Shallow Treatment - 40mm	Partial reconstruction – 120mm to 150mm Plane and Inlay – Deep Treatment – 80mm to 100mm
Footways	Bituminous	Plane and Inlay –20mm	Reconstruction –100mm and 100mm Type1 or 100mm concrete to crossovers and footway parking
	Blocked, Flagged & Mixed	Reconstruction – Flag and Sand and 100mm Type1	Reconstruction – Block / Flag and Sand and 100mm Type1
Street Lighting	Managed in MUSE		
Highway Structures	Managed in BRIDGESTATION		
Drainage	Gully Cleansing, Managed in Map16		
Highway Trees	EzyTreev		

MODULE C – COMMUNICATIONS AND STAKEHOLDER ENGAGEMENT

What... Communications and Stakeholder Engagement is the process of engaging key asset users, to inform how highway assets are maintained in management decision-making processes.

Customers are groups or individuals with an interest in how the highway assets are managed and where government expenditure occurs. These may include protected groups requiring access to the network and businesses needing good infrastructure to support economic activity. Most importantly it must be ensured that the asset is maintained to provide a safe network, to fulfil the Council's statutory duty.

Why... Engaging with end users ensures the social and economic benefit of the road network is optimised. Creating consultations eliminates decisions made solely by engineers and a small cohort of advisors and prevents localised rather than network-wide improvements.

Engagement with the wider community enables decision-makers to satisfy engineering need and focus investment in areas with the greatest benefit to the community. This ensures maximum benefit is achieved through efficient and effective management and organisation.

Who... The responsibilities for the 'Customer Engagement' module lie with:

Leading customer engagement	**Head of Highway Operations**
Updating & reporting module	**Senior Asset Management Technician**

How... Enfield undertakes many methods of engaging with relevant end-users. These methods of communication include:

- Social media (Twitter, Facebook, etc) – An efficient and cost-effective way of communicating with lots of people.
- Forums/Focus groups – Provide access to all demographics equally to voice concerns about the delivery of maintenance strategies.
- Elected members – These people can act as a mouthpiece for end-user requests. They are selected for their comprehensive knowledge of Enfield's highways.
- Website content – Allows for regular updates to engage a wide audience.

These plans facilitate effective communication between the highways department and stakeholders by defining appropriate procedures to deliver information to relevant parties.

Enfield has developed two communication plans which detail how asset management procedures will be communicated, through what communication streams and to whom. The stakeholders engaged are listed in Figure C1.

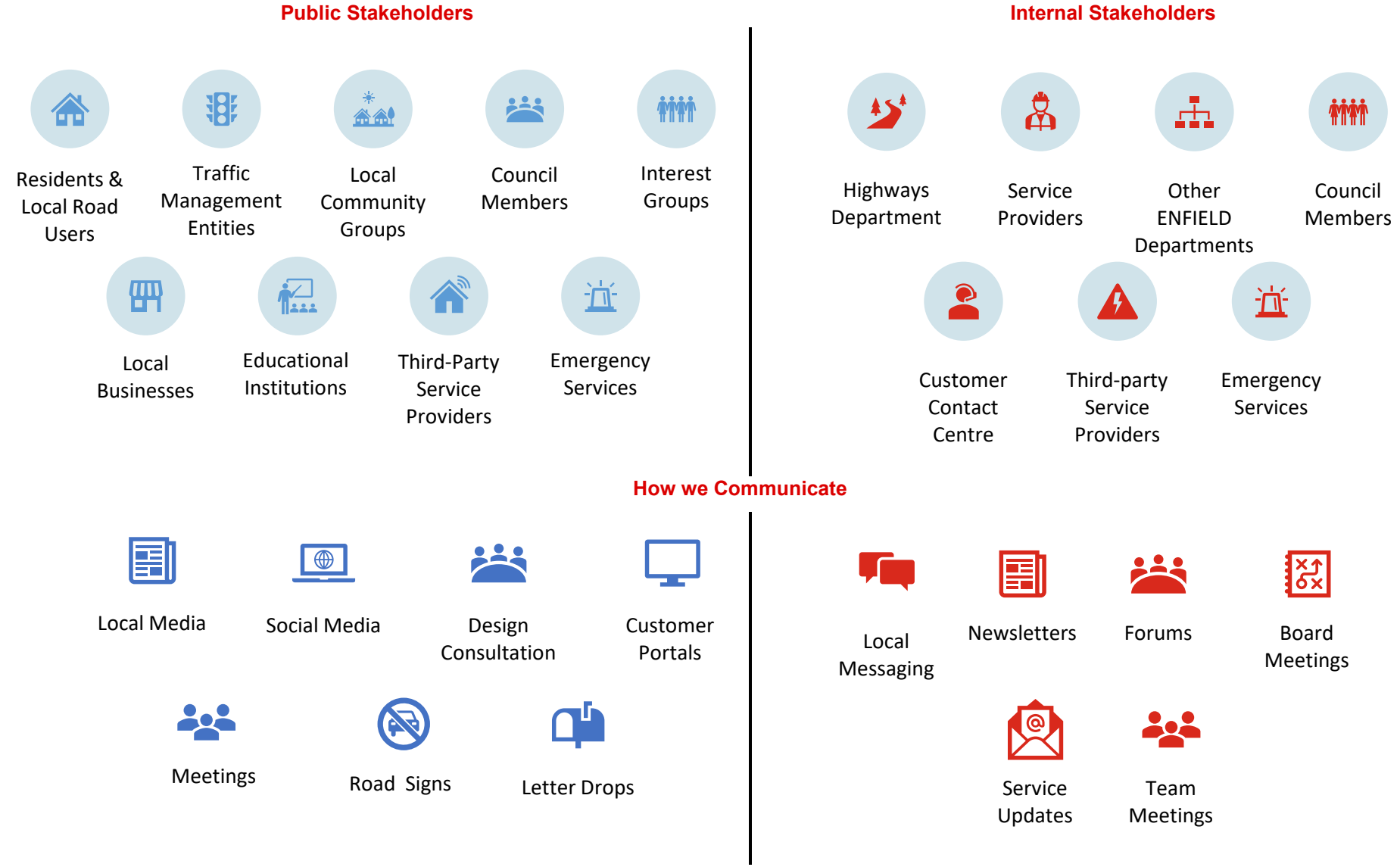
Reporting... Customer satisfaction indicators are periodically reported and recorded in a dashboard.

Moreover, the ease of customer interaction with digital services is planned to be recorded through a simple survey attached at the bottom of all Enfield webpages.

Success Measures... Fewer claims on highway assets and diversity in the types of highway / public realm improvement works delivered to maintain the highway asset in Enfield.

Further Information:
Equalities Act 2010, Public-Sector Equality Duty

Figure C1: Highways asset management stakeholders.



MODULE D – FINANCE

What... Finance is the funding support Enfield uses to maintain highway assets. Enfield typically does not receive funding from central government direct. Therefore, Enfield sources finance from various streams, primarily from Council funded capital and revenue with some additional funding from TfL and national sources.

This module reviews current and future funding sources, as well as expenditure implemented to improve the highway's performance.

Why... Enfield needs to stay abreast of developments in funding and revenue opportunities. Hence, evaluating budget funds and investment strategies is core to raising revenue locally to sustain highways activities.

The highways team needs to ensure the best case is put forward for funding from funds available through CIL, Section 278, Section 106 and business rates as these provide income to the Council.

Who... The responsibilities for the 'Finance' module lie with:

Defining budget need	**Head of Highway Operations**
Developing income opportunity	
Monitoring expenditure	**Head of Highway Operations.**
Updating & reporting module	**Senior Asset Management Technician**

How... Enfield investigates all funding opportunities to invest in the highway infrastructure with the aim of ensuring streets and public spaces are high quality and well maintained.

The following funding routes are identified by Enfield to be pursued:

- Council capital/revenue.
- Government / TfL grants where available.
- Funding from the Local Implementation Plan.
- Funding from revenues and contributions.
- Funding from the Community Infrastructure Levy; S106 and S278 Developer Agreement.

Expenditure is recorded and monitored on an annual basis to reflect the overall funding, and income and capital/revenue split for the Council.

Reporting... Figure D1 provides an overview of the trend in income streams from internal and external sources and how this has been spent through capital and revenue budgets.

The proposed capital / external expenditure is reported through an annual cabinet report.

Success Measures... Maximising income from third parties will be essential for the long-term improvement and steady-state maintenance of the highway assets.

The need to inform future budgets through investment modelling, outlined in Module E – Investment Strategies and Lifecycle Planning, will be imperative to build a robust business case for alternative funding.

Further Information:
HMEP/UKRLG – Maintaining a Vital Asset
ISO55000 – Asset Management
Highways Infrastructure Asset Management Guidance Document UKRLG 2016

Figure D1: Funding streams, budgets and expenditures.

Type	Code	Budget
Revenue	Bridge Repairs	83,000
Revenue	Pumping Stations	10,000
Revenue	Defects & Emergency	424,000
Revenue	Highway Drainage Rep	50,000
Revenue	Road Markings	134,000
Revenue	STREET FURNITURE	22,000
Revenue	Surveys	14,000
Revenue total		**951,000**
Capital	Planned Defects	2,800,000
Capital	Carriageway Resurfacing	1,000,000
Capital	Footway Renewal Program	320,000
Capital	Minor Highway Improvements	10,000
Capital	Structures - Bridges & Culverts	127,000
Capital	Borough Road Marking Programme CIL	200,000
Capital total		**4,457,000**
TfL		13,000
TfL	Lea Valley Road Bridge/Weir Stream	300,000
TfL	MOLLISON AVENUE BRIDGE (TfL)	400,000
TfL total		**713,000**
Revenue & Capital & TfL Total		**6,121,000**

MODULE E – INVESTMENT STRATEGIES AND LIFECYCLE PLANNING

What... Investment in the highway asset is essential to improve the condition, maintain a steady-state or control the rate of deterioration. To determine the best level of investment and drive long-term capital savings, varying budget scenarios across different parts of the network can be explored.

Investment modelling is the process used to determine the funding requirements to reduce the network's backlog (intervention required to reach a desired condition), and to sustain the highway's assets at the desired condition. It provides an analysis of short and long-term impacts considering different budget scenarios.

Why... The importance of funding distribution originates from the fluctuating behaviour of different asset groups and changes in government/TfL funding. Funding and investment planning in conjunction identifies influential schemes with the appropriate intervention level to meet the desired levels of performance. For example, reducing maintenance budgets below a certain level may lead to an increase in the backlog.

This can be demonstrated by comparing the value of annual investment plans against the predicted level of improvement to the maintenance backlog.

Who... The responsibilities for the 'Investment Strategies' module lie with:

Determining strategies	**Head of Highway Operations.**
Evaluation strategies	**Head of Highway Operations**
Updating & reporting module	**Senior Asset Management Technician**

How... Enfield periodically reviews the investment needs of different assets using condition data, customer relations, and performance measures as demonstrated within Module I – Performance Management and Monitoring.

A steady-state condition target follows Enfield's intention to extend a best practice approach to all highway asset types, aligned with sustainable investment models. Enfield also regularly assesses the quality of predictive lifecycle models used to determine the timely intervention of maintenance needed. The following measures ensure investment models used are accurate, Enfield reviews:

- Treatment options relative to their costs.
- Condition of all highway's asset groups.
- Useful Economic Life (UEL) of highway assets, required by the Director of Finance.
- Maintenance budgets to support scheme development.

Information collated determines the current backlog and the impact of planned investment scenarios, ensuring investment improves performance and supports budget constraints.

Reporting... Lifecycle planning reporting is done through update reports when investment scenarios are undertaken. An investment strategy follows the modelling performed.

Success Measures... Investment strategies aim to deliver performance targets, detailed in Module I – Performance Management and Monitoring. Tables below illustrate the current investment levels

Table G1: Backlog per asset based on available data.

Asset	Backlog
Highways	£50m
Total	***50m***

Table G2: Required against current funding.

Asset	Steady-State Funding Need	Current Funding
Highways	£ 4m	£1m
Footways	£4m	£0.320m
Total	***£8m***	***£1.32m***

MODULE F – DELIVERY PROGRAMMES

What... Enfield prioritises maintenance work and generates forward works programmes for individual maintenance activities, required for the highway assets, and schedules them into task programmes. The methods of prioritisation are based on the hierarchy system discussed in Module H – Highway Hierarchy and Network Model, as well budget constraints dictated in Module D – Finance.

Why... Developing a prioritised longer-term programme of works gives greater transparency of the work to be delivered. Transparency allows residents and businesses to understand the volume of work that has been invested, and the timing of when works is to be undertaken. For works delivery teams, there is greater certainty of future work to better resource and deliver work efficiently.

Furthermore, a longer-term view to highway asset investment allows Enfield to focus on delivering a forward-looking strategy, ensuring investments deliver wider council objectives.

Who... The responsibilities for the 'Delivery Programmes' module lie with:

Preparing works programmes	**Head of Highway Operations**
Updating & reporting module	**Principal Asset Manager**

How... Enfield provides ongoing analysis and updates of the priority for investment of each asset group based on the hierarchy, customer requests, engineering need and condition. To achieve this, data is collected and analysed to provide a priority list of all assets within each asset group.

From this Enfield can assess the quantity of work that needs to be done, and the type of work (preventative, planned, etc.) that needs to be undertaken. The tools used for assessment are:

1. EXOR (AssetWise):
    - Carriageways
    - Footways
    - Street Lighting - MUSE
    - Drainage
    - Street Furniture
2. BRIDGESTATION: Highway Structures
3. CONFIRM Management of routine highway safety inspections
4. EZYTREEV: Highway Trees.
5. MUSE: Street Lighting

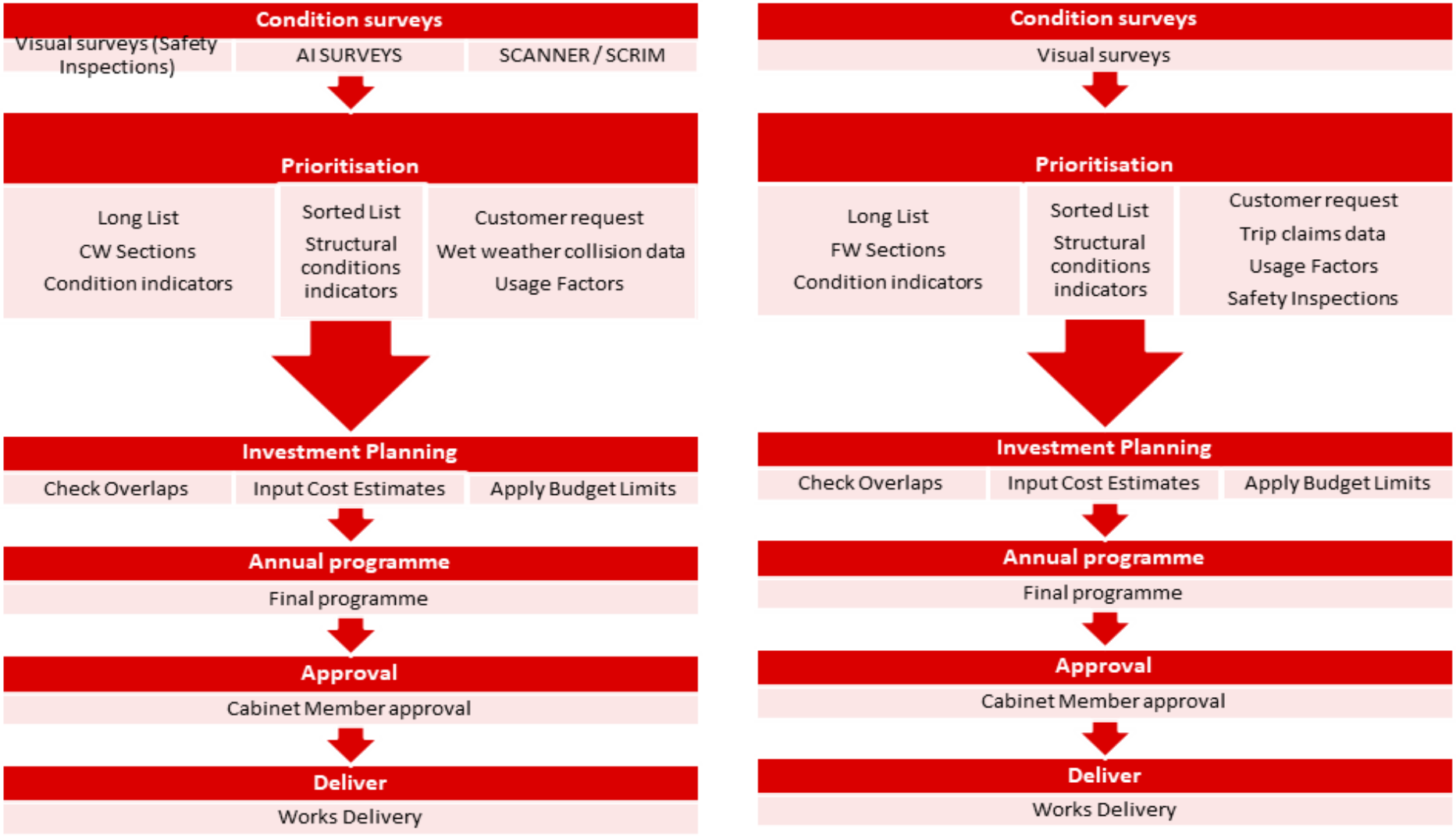
The processes for developing the programmes for the above-mentioned highway assets are shown in Figure F1.

Reporting... Enfield produces a three-to-five-year prioritised forward programme of planned carriageway and footways schemes. Every road section is assigned a score, and consequently a priority ranking. This ranking determines the schedule of works up to the available budget. The draft works programme is then presented to the cabinet for final approval and endorsement.

Success Measures... The delivery of Enfield's works programme is the tangible outcome of the entire asset management planning process. The prioritisation, planning and delivery of works aligns with Enfield's Highway Policy, delivering performance targets as set in Module I – Performance Management and Monitoring.

Further Information:
Highway Infrastructure Asset Management Guidance document, UK RLG, 2016
ISO 55000 – Asset Management
UK Pavement Management System (UKPMS)

Figure F1: The works programme development process for carriageways (left) and footways (right)



MODULE G – ASSET KNOWLEDGE

What... As the Highway Authority, Enfield owns, and is responsible for, the repair and maintenance of all assets that form part of the public highway. The safety of the highway network is the Council's responsibility, which means that Enfield has a duty to inspect and repair roads, footways and highway structures, and ensure that street lighting and drainage systems are working effectively.

Asset knowledge comprises of collection and storage methods of inventory, condition, and safety inspection data of Enfield's highway assets. Enfield also has the responsibility to safely retain information from customers and clients, abiding to the Data Protection Act 1998.

Why... Asset data is required to enable Enfield to undertake the following processes:

- Monitor/report highway network condition.
- Evaluate performance indicators.
- Assess the whole life costs of assets.
- Identify and model future investment and maintenance strategies.
- Investigate and manage risk, using routine safety inspection and etc, to prevent the accumulation of highway claims.
- Develop short and long-term forward works programmes.

Ensuring regular and accurate data collection is undertaken allows asset managers to assess, analyse and report performance, progress, and future need. Managing asset data is also crucial for the prosperity of the borough, enabling the safe and free movement of people and goods through walking, cycling, driving or public transport services.

Who... The responsibilities for the 'Asset Knowledge' module lie with:

Data collection	**Head of Highway Operations**
Data management Updating & reporting module	**Senior Asset Management Technician**

How... It is essential to ensure data collected remains current and appropriately accurate to act as the foundations supporting performance reports and decision-making.

Enfield adopts sensible data collection where data can be used for multiple tasks, and the level of detail captures the council's needs while providing value for money. Table C1 provides an overview of the data collected. Surveys and data storage detailed in Table C1 are also periodically reviewed against alternative methods to assess and improve data quality.

Enfield, alongside many other London boroughs and TfL, is transitioning to a network-wide usage of new AI surveying technologies. Conversing with neighbouring London boroughs promotes a common approach to asset management – recommended by the Code of Practice; for example: benchmarking rates and data collection methods.

Reporting... Due to a network's complexity, data collected is assessed and stored in separate Highway Management Systems (HMS). Tables G1 and G2 store asset inventory and condition data. Data assessed feeds into HAMP modules to report asset performance, including Module I – Performance Management and Monitoring.

Success Measures... Separate to other HAMP modules, asset knowledge helps Enfield to support its statutory requirements, especially making informed and effective decisions.

Further Information:
Highway Infrastructure Asset Management Guidance document, UKRLG, 2016
ISO55001 – Requirements of Asset Management Systems
UK Pavement Management System (UKPMS)

Table G1: Enfield's asset condition assessment.

Asset Group	Asset Type	Type of Survey	Network coverage	Frequency	Service Provider	Storage System
Carriageways	Principal Classified Roads (A roads)	AI Survey	100%	Annually	VAISALA	Web Portal
		SCANNER	100%	Annually		
	Non-Principal Classified Roads (B & C roads)	AI Survey	100%	Annually	VAISALA	Web Portal
	Unclassified roads (U roads)					
Footways	Hierarchy A	Routine safety inspections	100%	In line with inspection frequency		Web Portal
	Hierarchy B					
	Hierarchy C					
	Hierarchy D					
	Hierarchy E					
Highway Structures	All Structures	General Inspections	100%	2 Yearly	ENFIELD	BRIDGESTATION
		Principle Inspections	100%	6 Yearly		
		Load Assessments	As Required			
Drainage	Gullies	CCTV surveys (critical gullies) Ad hoc inspections	Ad hoc	Annually	ENFIELD	EXOR
	Pipes / Carrier drains		10%	Annually		
	SuDS Features	Visual Surveys	100%	Annually		
Street Lighting	Lighting Columns	Electrical testing	100%	Every 6 years	ENFIELD	MUSE
		Structural testing	100%	Every 6 years		
Street Furniture	All Street Furniture	Routine safety inspections	100%	In line with inspection frequency		
Highway Trees	All Highway Trees	Routine safety inspections	100%	Annually	GRISTWOOD AND TOMS ENFIELD	EZYTREEV

Table G2: Enfield's asset inventory and condition.

Asset Group	Asset Type	Quantity	% Operating in a good condition		
			Current (2025)	Target on current funding (2025)	Target (Long-term)
Carriageways	Principal Classified Roads (A roads)	67.5km	60	60	80
	Non-Principal Classified Roads (B & C roads)	52.75km	43	43	75
	Unclassified roads (U roads)	464km	43	43	70
	TOTAL	**584.25km**			
Footways	Hierarchy B	29km	34	34	80
	Hierarchy C	62km	30	30	75
	Hierarchy D	84km	53	53	70
	Hierarchy E	483km	40	40	65
	TOTAL	**658km**	**N/A**		
Cycleways	**TOTAL**	**46km**	**-**		
Street Lighting	Streetlights	23,867no.	**PFI**	100	100
	Illuminated Bollards	2,280no.	**PFI**	100	100
	Illuminated Signs	2,609no.	**PFI**	100	100
	Other	1,485no.	**PFI**	100	100
	TOTAL	**30,241 no.**	**N/A**	100	100
Drainage	Standard Gullies	27,000 no.	100	100	100
	Critical Gullies	300 no.	100	100	100
	Pipes	150km	100	100	100
	TOTAL	**27,000 no.**			
Highway Structures	Highway Bridge	90 no.	95	100	100
	Culvert	99 no.	95	100	100
	Footbridge	44 no.	100	100	100
	Pedestrian subway / Underpass	2 no.	100	100	100
	Retaining Wall	91 no.	100	100	100
	TOTAL	**326 no.**	**N/A**		
Street Furniture	Road signs	14,320	75	**80**	100

	Street nameplates	20,576	75	80	100
Highway Trees	Trees in good and reasonable condition	20,037no.	88	88	90

MODULE H – HIGHWAY HIERARCHY AND NETWORK MODEL

What... A network hierarchy is a ruleset used to assess the importance and usage factor of a group of highway assets. These factors governing the importance of assets differ for each asset group of the highway. Under LoTAG's guidance, a series of related hierarchies should be defined for all elements of the highways network, including carriageways, footways, structures, drainage and street lighting.

A Network Model is a method of virtually storing and visualising asset data. The model would store both quantities and condition of the highway's assets and acts as a mechanism to monitor to the network.

Why... A highway hierarchy should reflect the priorities of each asset group. Assets should be assessed on a wide range of influencing factors to determine their relative importance to the highway network.

A hierarchy acts as a starting point for various activities, including; safety inspection regimes, defect investigatory levels, maintenance approaches, and treatment options. It is Enfield's duty to maintain and update the hierarchy as and when seen appropriate.

The Network Model is used to monitor and influence the overall network condition. The maintenance of the model data fundamentally feeds into the planning and execution of maintenance across the entire highway network.

Who... The responsibilities for the 'Highway Hierarchy and Network Model' module lie with:

Determining Hierarchy Drivers	**Head of Highway Operations**
Updating & reporting module	**Senior Asset Management Technician**

How... Enfield has identified several influential factors to be assessed within the framework. For example, when assessing carriageways and footways, these factors include:

- Traffic Volume
- Traffic Generators
- Network Resilience
- Bus Routes
- Essential Services

Enfield uses a risk-based approach to assess the importance of each factor above. Tables H1 and H2 illustrate the elements constituting to managing Enfield's carriageways and footways, and similar rulesets are used to analyse Enfield's other assets. Hierarchy rulesets are reviewed regularly and benchmarked against neighbouring borough hierarchies to consolidate a common asset management approach.

Enfield manages and maintains the Network Model in-house using a GIS system to efficiently house the minimum appropriate data to manage the network.

Reporting...The network hierarchy is stored as part of the asset register and hosted on the network model. Regular reviews of the hierarchy are conducted to ensure changes of usage are reflected on the network.

Success Measures... Using hierarchies similar to those detailed in Tables H1 and H2 feed information and delegate maintenance options through a multitude of other modules, such as Module F – Delivery Programmes. Therefore, the success measures of the Highway Hierarchy and Network Model can be seen by the proportional improvement across highway assets and a reduction in consumer claims.

Further Information:
Highway Infrastructure Asset Management Guidance document, UKRLG, 2016

Table H1: Enfield's carriageways hierarchy ruleset.

Strategic Roads	Motorway TfL Road Network Borough Principal Road Network		
	Functionality Factor		**Functionality Definition**
Local Roads	**A**	Prestige	High Profile
	B	Very High Traffic Volume	AADF > 10k | Local Knowledge
		Essential Services	Hospital Fire Station Police Station
		Major Traffic Generators	Town Centre Shopping Centre Market Large School/University
		Very High Cyclist Volume	AADF > 1000 | Defined Cycle Route
		Major Bus Route	Large no. of buses
	C	High Traffic Volume	5k < AADF < 10k | Local Knowledge
		Medium Traffic Generators	Medium Schools Shopping Parades
		High Cyclist Volume	AADF > 500 | Local Knowledge
		Resilient Network	On resilient network
		Minor Bus Route	Medium no. of buses
	D	Medium Traffic Volume	1k < AADF < 5k | Local Knowledge
		Medium Cyclist Volume	100 < AADF < 500 | Local Knowledge
		HGV Usage	Route to industrial estate
		Minor Traffic Generators	Small Schools Local Shops
		Infrequent Bus Route	Small no. of buses
	E	Low Traffic Volume	AADF < 1k | Local Knowledge
		Low Cyclist	AADF < 100 | Local Knowledge
		No Traffic Generator	No traffic generator

Table H2: Enfield's footways hierarchy ruleset.

	Functionality Factor		**Functionality Definition**
Local Footways & TfL Red Routes	**A**	Prestige	High Profile
	B	Very Pedestrian Volume	Footfall Count Local Knowledge
		Essential Services	Hospital Care Home Police Station
		Major Traffic Generators	Town Centre Shopping Centre Large School/University Train Station
		Major Bus Route	Large no. of buses
	C	High Pedestrian Volume	Footfall Count Local Knowledge
		Medium Traffic Generators	Medium School Shopping parade
		Vulnerable Users	GP Surgery Senior Citizens Home
		Shared Use	Shared Cycle/Footway
		Minor Bus Route	Medium no. of buses
	D	Medium Pedestrian Volume	Footfall Count Local Knowledge
		Minor Traffic Generators	Small School Local Shops
		Infrequent Bus Route	Small no. of buses
	E	Low Pedestrian Volume	Footfall Count Local Knowledge
		No Traffic Generator	No traffic generator

MODULE I – PERFORMANCE MANAGEMENT AND MONITORING

What... Performance Management and Monitoring is the process by which Enfield assesses and communicates objectives for the highway assets and monitors performance against these objectives.

Why... Enfield has adopted this outcome focused approach to ensure highway asset maintenance functions are aligned with and contribute to achieving the Council's corporate vision and objectives laid out in the London Mayor's Transport Strategy 2018. Performance Management and Monitoring is undertaken to initiate a performance driver culture, aimed at allocating/distributing budgets effectively and efficiently.

Who... The responsibilities for the 'Performance Management' module lie with:

Approving targets	**Director of Environment and Operational Services**
Monitoring performance	**Head of Highways Operations**
Updating & reporting module	**Principal Engineer**

How... Enfield has adopted performance management according to ISO 55000 and as outlined in the HMEP – UKRLG Highway Infrastructure Asset Management Guidance document (2016).

Relevant high-level drivers and performance indicators have been identified from Enfield's Borough Plan 2023-26, and the Mayor's Transport Strategy for London. Performance indicators and targets are also extended to all contracted works to consistently enforce successful performance from supply to service delivery.

Reporting... Enfield uses the following performance dashboards to illustrate the performance management system adopted, as in Table I1 & Table I2. They consider all the highway assets under the Council's remit, outlining for each, multiple performance indicators, our current condition, and our short- and long-term targets mapped to levels of service categories.

This process ensures Enfield focuses efforts and investment into the areas that positively impact the high-level drivers and represent the highest level of risk to the Council. The cost of attaining target PIs is discussed in module G – Investment Strategies.

Success Measures... Apart from providing a direct link to the Council's corporate vision, performance management will help Enfield demonstrate the effective use of available budgets. This will also demonstrate any shortfalls in funding and where this needs to be targeted to ensure the transport network is fit for purpose and with an acceptable level of risk.

Further Information:
HMEP/UKRLG – Maintaining a Vital Asset
ISO55000 – Asset Management
UKRLG – Highways Infrastructure Asset Management Guidance Document
Mayor's Transport Strategy 2018
Enfield Borough Plan 2023-2026

Figure I1: Asset performance indicators setting

Table I1: Enfield's service performance dashboard extract

Asset Group	Performance Indicators	
	Description	Enfield (2024)
Carriageways	% of carriageway surface area treated per year	0.9
	% of steady state funding expenditure spent	36
	% of planned funding expenditure spent	100
	No. of safety defects per km (no./km)	16.2
Footways	% of footway surface area treated per year	0.1
	% of steady state funding expenditure spent	100
	% of planned funding expenditure spent	100
	No. of safety defects per km (no./km)	8.6
Structures	% of bridges meeting required carrying capacity	95
	% of required structures inspections carried out	100
Drainage	% of gullies operating efficiently	99
	Number of SUDs schemes on road network	304
	No. of reported flood events per km (no./km)	0.6
Street Lighting	Yearly street light energy consumption per column (kWh/col)	117
	No. of street light outages per km (no./km)	TBC
Highway Claims	No. of claims per km(no./km)	0.28
Customer feedback	No. of complaints on the highways services per km (no./km)	0.006

MODULE J – ASSET VALUATION AND REPORTING OF INFRASTRUCTURE ASSET VALUES

What... Asset valuation calculates the value of all the highway assets that Enfield owns. The value of Enfield's highway assets 2019 is £1.3 billion, making this the most valuable asset in the Council's portfolio.

Why... Enfield in the past calculated asset valuation primarily for WGA annual reporting purposes and reporting into the Council Ledger. The valuation process was also used internally for the following purposes to:

- Indicate the annual change of asset condition in monetary terms – calculations indicate an improvement/deterioration of asset condition.
- Calculate the annual depreciation of assets, representing the annual consumption of service benefits, and estimates the average expenditure required each year to maintain a steady-state network condition.
- Produce transparent information for stakeholders on Enfield's asset management procedure.

Who... The responsibilities for the 'Asset Knowledge' module lie with:

Data collection and Updating & reporting module	**Senior Highway Asset Management Technician**
Data management	

How... Following a decision by central government that WGA would not include highway assets, Enfield ceased preparation of asset valuations in line with the HM Treasury's Data Collection Tool (2016) and the CIPFA Transport Infrastructure Code, as required for WGA through the IFRS.

Reporting... Enfield will review its valuation process. which can provide an asset's current replacement cost, less deductions for all physical deterioration and impairment. The DRC calculation requires the GRC – construction cost of an equivalent new asset. The difference between the GRC and DRC represents the cost of restoring the asset from its present condition to 'as new'.

Success Measures... Beyond the WGA requirements, Enfield will utilise valuation as one of a basket of measures, to track the condition of the highway assets. Knowing the change in value year-on-year will help Enfield better understand how effective the planned maintenance regimes are at maintaining the condition and service potential of the assets. With this knowledge, Enfield will be placed in a better position to present cost estimates for different levels of service and reaching performance and customer engagement targets, detailed in Module B – Performance Management and Monitoring, and Module E – Communications and Stakeholder Engagement. This, in turn, builds a robust business case accessing funding requirements to ensure the highway network is fit for purpose and maintained as efficiently as possible.

Further Information:
Code of Practice on Transport Infrastructure Assets, December **2016**
Code of Practice on Transport Infrastructure Assets: Guidance Notes, May **2015**
Whole of Government Accounts Guidance, HM Treasury

Table J1: Enfield's asset valuation report figures for *2019*

Asset Group	GRC (£'000)	DRC (£'000)	Depreciation	
			(£'000)	%
Carriageways	988,479	806,065	182,414	18
Footways	264,570	177,227	87,343	33
Highway Structures	258,060	160,033	98,027	38
Street Lighting	45,217	28,475	16,742	37
Traffic Management	N/A			
Street Furniture	11,408	2,525	8,883	78
Gross Replacement Cost (GRC)	**1,567,734**			
Depreciated Replacement Cost (DRC)	**1,174,325**			
Depreciation	**393409**			
Highway Land	*4,262,527*			

MODULE K – CLIMATE ACTION AND SUSTAINABILITY

What... Sustainable highway maintenance looks at the three pillars of sustainability consisting of the social, economic and environmental aspects. This approach to maintenance will ensure Enfield maximises community value and minimises whole life costs, whilst maximising environmental contributions.

This module also focuses on the provision of active travel, reduction of carbon emissions, as well as providing the necessary maintenance to maintain Enfield's resilient network. This module also aligns with objectives stated in Enfield's Carbon Plan 2020, and their Council Plan 2020.

Why... Highway maintenance has a direct impact on the sustainability of the Council as:

- It fosters the development of sustainable communities and Enfield's resilient network.
- It fosters the development of play streets, school streets and low traffic neighbourhoods to better the social and environmental demands of the community.
- The Council's lighting energy consumption is an important output that should be reduced.
- The extraction, processing and transportation of materials used constitute a significant source of embodied carbon, particularly in the production of cement and asphalt.

Enfield is committed to ensure that highway maintenance is conducted as sustainably and, environmentally friendly as possible

Who... The responsibilities for the 'Climate Action and Sustainability' module lie with:

Monitoring contractual KPIs	**Principal Engineers**
Updating & reporting module	**Senior Highway Asset Management Technician**

How... Enfield addresses the social and economic pillars of sustainability in other HAMP modules, including Module B – Levels of Service, and Module C – Communications and Stakeholder Engagement.

Enfield explores multiple opportunities aimed at improving the Council's sustainability by:

- Increasing active travel, through introducing high quality cycling and walking routes.
- Improving accessibility to the vulnerable.
- Reducing carbon emissions through the introduction of LED dimming schemes.
- Enhance the quality of public space through biodiversity and wildlife conservation.
- Improving provisions for sustainable travel by maintaining electric vehicle charging ports.

In addition, Enfield and engaged contractors are committed to the environmental mitigations outlined in Table L1. Enfield works with the supply chain to reduce carbon emissions, minimise waste and implement sustainable solutions.

Reporting... Enfield monitors environmental sustainability through key performance indicators. Performance Indicators from Enfield's Carbon Plan 2020 can be seen in Table K2. Performance indicators are reported in the term contractor's Annual Performance Report.

Success Measures... Taking full advantage of the environmental contribution through the adoption of sustainable highway practices is imperative for the long-term benefits Enfield aims to gain. Hence, it is Enfield's aim to continue driving the sustainability agenda and retain environmental pollution and waste to a minimum.

Further Information:
Contractor's Annual Performance Report

Table K1: Environmental mitigations undertaken by Enfield and engaged contractors.

Pollution Control	ENFIELD will always seek to reduce the environmental impact of maintenance works either through avoiding work during sensitive periods (noise pollution) or difficult weather conditions (water pollution). This ensures appropriate measures are in place to avoid potential contamination or damage to the surrounding landscape, watercourses or groundwater.
Noise Reduction	In addition to minimising the impact of noisy maintenance operations, the Council considers low noise alternatives to traditional carriageway surfaces, to reduce noise pollution from passing vehicles, where there is a favourable benefit / cost ratio.
Air Quality	Air quality is high on ENFIELD's environmental agenda, listed as Objective 3 of the ENFIELD Transport Strategy. ENFIELD proposes to introduce initiatives through pursuing projects and programmes to reduce vehicle use, particularly diesel-powered vehicles, and supporting alternative means of transport to motor vehicles, amongst other measures.

Figure K2: Enfield's Council environmental key performance indicators sourced from Enfield's Carbon Plan 2020-2022.

Objective	Performance indicator	Council Baseline	Expected performance
Carbon emissions	% reduction in carbon emissions	21,907tCO2e	7.3 – 9.1% reduction each year
Staff environmental competency	% of internal staff who have completed climate related training	0	30% of staff each year
	% of contractor vehicles that are electric		
Active travel modal shift	% of total electric vehicle fleet	1% (2018/19)	60% (2025/26) 100% (2030)
	Trips made by active, efficient and sustainable modes – public transport, walking and cycling.	53% average (2015-2018)	55% (2021) 69% (2041)
	No. of public highway and in public car parks	19 (2019/20)	250 (2025)

MODULE L – RESILIENCE AND RESPONSE FOR ADVERSE WEATHER

What... Resilience and Response for Adverse Weather looks at the processes in place to manage the highway network in times of extreme weather e.g. intense heat, snow and flash flooding, amongst other emergencies.

As defined in highway terms by the DfT, extreme weather includes major rainfall events, intense summer temperatures and strong winds exceeding infrastructure operational limits. Maintaining the highway network during adverse weather is a statutory requirement, confirming to the Highways Act, and the Traffic Management Act.

Why... Developing a resilient network and strategy manages Enfield's approach to dealing with extreme weather and other emergencies.

This management approach will ensure that Enfield maintains a functional network and minimises social and economic disruption caused by weather and other emergencies. Communicating information is crucial to ensuring the community's safety during extreme conditions.

Enfield is committed to ensure that the highway network is maintained to a high standard and disruption on the network is minimised, where possible. However, exceptional weather events and emergencies may cause unforeseen disruption.

Who... The responsibilities for the 'Resilience and Response for Adverse Weather' module lie with:

Monitoring network resilience levels Monitoring emergency planning levels Updating & reporting module	**Head of Highway Operations**

How... Enfield aims to maintain the network resilience, by maintaining the defined resilient network to a good standard through highways maintenance; as well as, adopting fast-acting responses to emergency situations to recover full network functionality as soon as practicable.

Enfield maintains a risk register which aligns with the Greater London Authority's risk assessment process. Using a risk-based approach, Enfield assesses the cost effectiveness of prioritising and optimising routes. Budget provisions designated to emergency responses are reviewed annually.

The Emergency Planning team creates plans which guide how the council will respond to emergencies. These plans are typically aimed at maintaining SUDs and carriageway assets to enhance the capacity and sustainability of the highway network.

Enfield's resilient network is defined on winter maintenance routes, outlined in our winter maintenance plan. The network is categorised into precautionary salting, post salting for ice treatment, and snow clearance into three categories: carriageways, cycleways and footways. Enfield also considers the factors:

- Key strategic routes
- Key flooding areas
- Key amenities

Reporting... Enfield reviews the performance of the network resilience by conducting reviews of emergency responses. These are audited internally and used to inform lessons learnt. Enfield distributes emergency information through a plethora of media forms. These media avenues can be found in Module C – Communications and Stakeholder Engagement.

Success Measures... To reduce network disruption to the minimum possible within the constraints of the scale and magnitude of weather events and other emergencies.

Further Information:

London Risk Register
Winter Service Operations

MODULE M – FUTURE DEMAND AND ADAPTABILITY

What... Future Demand and Adaptability is associated with ensuring that the network is maintained to a high enough standard to remain safe and accessible. Enfield aims to ensure its network is adaptable to changes in demand including increasing electric vehicle infrastructure, in line with the New London Plan, and Enfield's Local Development Framework and Area Action Plans.

Why... Ensuring that Enfield manages its assets effectively is crucial to improving Enfield's ability to adapt. The adaptability is connected with other modules reported in this HAMP, including Module K – Climate Action and Sustainability, Module L – Resilience and Response for Adverse Weather, and Module E – Investment Strategies and Lifecycle Planning.

Managing assets considering future demand, ensures various factors influencing the network's resilience is maintained. The following factors include:

- Increased impact from traffic generators.
- Depletion of the natural environment and biodiversity.
- Higher usage of sustainable active transport.
- Increased demand for electric vehicle infrastructure.

Given Enfield's obligations to its Council Plan objectives, Enfield must invest into the supply of more electric vehicle infrastructure to achieve its statement of reaching electric only vehicles in the Council and borough by 2030 and 2040, respectively.

Who... The responsibilities for the 'Future Demand and Adaptability' module lie with:

Monitoring future demand and network capacity	**Head of Highways Operations**
Updating & reporting module	**Senior Highway Asset Management Technician**

How... To promote more active travel, Enfield has introduced Play Streets, Low Traffic Neighbourhoods, Cycle Lanes and School Streets schemes. The financial management and maintenance of these schemes and the surrounding footways and carriageways would be fundamental to their ultimate success. These schemes aim to create 'safe, healthy and confident communities', benefiting from:

- Healthier streets and community using them.
- Improved street safety (e.g. additional anti-terrorist and security measures).
- Reduced carbon emissions.
- Better community cohesion between social groups, through more community spaces.

Allied with Module K – Climate Action and Sustainability, Enfield's current highway infrastructure must evolve to satisfy the increase in electric vehicle usage. Some environmental performance metrics to support Enfield's electric vehicle goals are stated in Module K – Climate Action and Sustainability.

Reporting... Enfield reports the customer feedback regarding play streets and school streets alongside traffic incident data. Numbers of electric vehicle charging points will also be reported.

Success Measures... Success will be measured through positive customer feedback on the maintenance of Play Streets and School Streets and reductions in vehicle related incidents in associated areas. Furthermore, aligned with Module K – Climate Action and Sustainability and the Council's Carbon Plan 2020, the success of Enfield's adaptability can be seen by the reported increases in electric vehicle network and usage within the Council itself, and borough-wide (by 2030 and 2040, respectively).

Further Information:
Council Plan 2023-26
Carbon Plan 2020

Enfield's Local Development Framework and Area Action Plans

MODULE N – STREETSCAPE AND BIODIVERSITY

What... Streetscape and Biodiversity is the design, scenery and greenery of streets and footways within Enfield. Enfield has a statutory duty to ensure the carriageways and footways are maintained to a clean and safe standard. This module will discuss the methods as well as the reasoning for investing in various areas that make up the public highway.

Why... Alongside Enfield's Council Plan 2023-2026 and its Carbon Plan 2020, Enfield is determined to improve the green infrastructure borough-wide. This will help to achieve the Council's corporate goals and offset embodied carbon.

By considering both Streetscape and Biodiversity, Enfield's asset management practicies aims to create a fully inclusive environment, while maintaining the historical character of the London Borough.

Who... The responsibilities for the 'Streetscape and Biodiversity' module lie with:

Monitoring streetscape developments Identifying biodiversity opportunities Updating & reporting module	**Head of Highway Operations**

How... Enfield achieves its street design and biodiversity goals, including:

- Enhance and improve the condition of carriageways, cycleways and footways.
- Reduce street clutter.
- Soft landscaping – Introduce more trees, grass verges and hedges.
- Investigate and use more sustainable materials and methods for maintenance.

Enfield has a responsibility to maintain the borough's street furniture, such as electric vehicle charging points. Therefore, in cooperation with Module M – Future Demand and Adaptability, Enfield must adequately adjust for an increase in the maintenance of future electric vehicle infrastructure.

Enfield's asset management procedure must also include cross-divisional communication with the Public Realm team to organise the design of Play Streets and School Streets are easily maintainable. This ensures the protection of children and the general public using these traffic free spaces. Enfield improves the practical maintenance of footway and street furniture design to ensure the longevity of the assets.

Reporting... Enfield reports on the condition of the carriageways and footways and also reports on quantities and diversity of trees and quantity of street furniture as part of the State of the City Report.

Success Measures... The success of the Borough's biodiversity can be determined from an increase in the number of highway trees denoted in Enfield's asset inventory. Enfield's streetscape initiatives can be evaluated by the visible street clutter within the borough, an increase in soft landscaping interventions, as well as carbon metrics, mentioned in Module K – Climate Action and Sustainability, are visibly achieved.

Further Information:
Streetscape Design
Streetscape Policy and Guidance

MODULE O – SKILLS AND COMPETENCIES

What... Skills and Competencies outline the required levels of experience of staff alongside contractors and consultants within Enfield's Highway Operations department. This module outlines the skillsets and training required to effectively manage the highways assets in an efficient and cost-effective manner.

Why... Set out in HAMP Module III - Context, as the highways authority it is Enfield's statutory duty to maintain highways maintainable at public expense. To ensure highway assets are maintained to a safe standard and value for money is achieved for the public it is imperative that individuals within the Highway Operations department have the required skills and competencies.

Enfield aims to develop the work force so that they have the right training, skills and experience to deliver effective highway services based on sound asset management principles.

The strategy to deliver the skills required for effective and efficient highway management must align with the Council's Behaviour and Competency Framework

Who... The responsibilities for the 'Skills and Competencies' module lie with:

Developing skill and competency requirements for roles Continuously reviewing staff skills and competencies Updating & reporting module	**Head of Highway Operations**

How... Enfield ensures the required skill and competencies are present within the Highway Operations department in the following ways:

- UKRLG Competence Framework is completed for all staff roles
- Highway Services training plan updated annually.
- Training and development needs identified through PAR process.

Further to this Enfield aim to development a register of key skills necessary to meet organisational changes and future requirements and adaptions to the highway network.

Any gaps in skills or competencies identified throughout the internal team will be complemented through either of the following:

- Further internal employment
- Subcontracting works
- Engaging consultants to support best asset management practices

Reporting... Enfield report skills and competencies through the Council's Behaviour and Competency Framework.

Annual employee reviews are conducted from which the Head of Highway Operations determines the skills and competencies of the Highway Operations department and reports this to the Head of Highways, Traffic and Parking.

Success Measures... The success of the skills and competencies will be maintaining a workforce internally and complemented by contractors and/or consultants with the ability to deliver all aspects of the highways service based on sound asset management principles.

Further Information:
Highway Infrastructure Asset Management Guidance document, – UKRLG, 2016

MODULE P – BENCHMARKING AND CROSS BOROUGH WORKING

What... Benchmarking is the process adopted to look at how the London Borough of Enfield is delivering its highway service compared to other highway authorities.

Cross Borough Working is the process where Enfield allies with other neighbouring London boroughs to assess the appropriate actions to take when managing assets together. Cross Borough Working is typically undertaken where assets lie within the boundaries of multiple boroughs.

For the purposes of this HAMP, Enfield determines its own performance targets, and establishes strategies and investment needs to achieve the appropriate asset performance. Enfield's approach ensures it delivers the greatest benefit to the community.

Why... Benchmarking and Cross Borough Working informs good practice and enables Enfield to evaluate its operations and their delivery.

Benchmarking is used to ensure Enfield is delivering an effective communal service in the most efficient way using data to inform and challenge to its current procedures of managing its assets.

Cross Borough Working is essential to ensuring assets crossing borough boundaries are maintained by both authorities in a cost-effective manner.

Who... The responsibilities for the 'Benchmarking and Cross Borough Working' module lie with:

Identifying Cross Borough Working Opportunities	**Head of Highway Operations**
Updating & reporting module	**Senior Highways Asset Management Technician**

How... Enfield uses a variety of benchmarking documents, surveys and forums as follows:

- UKRLG Codes of Practice.
-
- National Performance Indicators, Single List.
- Vaisala Condition Surveys
- Post Works Satisfaction Surveys
- LoTAG State of the City Report
- AIA ALARM Survey
- LoLEG, LOHEG, LoDEG, LoBEG

These documents, surveys and forums provide an insight into Enfield's performance compared to others and allow it to track progress against Enfield's corporate objectives.

Enfield also reviews high performing authorities and engages with them to see how they operate differently. Enfield assesses its relative performance and strives to deliver best practice.

Enfield structures department also provides structural inspection support to other authorities including Redbridge.

Reporting... The delivery of the various elements of benchmarking are ongoing throughout the year. Observations or major changes in performance compared to other authorities will be noted in the annual 'State of the City' report. Performance metrics stated in several tables within this HAMP will be updated periodically.

Success Measures... Success will be measured by ensuring Enfield remains at the forefront of delivering highway assets that meet the needs of the community in the most cost-effective and efficient manner.

MODULE Q – IMPLEMENTATION AND IMPROVEMENT PLAN

What... The implementation and improvement plan is designed to assist Enfield to develop and implement a continuous improvement programme to enhance asset management processes, systems and data, and support the effective delivery of desired asset management outcomes.

Why... Continuous improvement is an essential element of asset management for Enfield. This enables financial savings to be reaped and better decisions made from information gathered around work done. Moreover, the HAMP should deliver key improvement actions to demonstrate improvement through time.

Who... The responsibilities for the 'Implementation & Improvement Plan' module lie with:

Maturity Assessment	**Head of Highway Operations**
Implement asset management Identify & deliver improvement actions	**Head of Highway Operations** **Principal Asset Manager**
Updating & reporting module	**Senior Highway Asset Management Technician**

How... Enfield undertakes continuous improvement according to ISO 55000 Asset Management Systems, and as outlined in the Well-managed Highway Infrastructure - A Code of Practice (2016).

A gap analysis is carried out periodically, through an Asset Management Maturity Assessment (AMMA), to highlight the disparity between the current and desired asset management practices within the Council. This identifies where strengths lie and areas where Enfield should focus efforts and help establish improvement actions for both in the short and long terms.

Reporting... The main issues identified, and improvement actions proposed as part of an improvement action plan are shown in Table Q1. This plan provides a summary of the actions that should be implemented and proposes a target year for completion.

Success Measures... By periodically undertaking a Maturity Assessment, Enfield will demonstrate continuous improvement in asset management and close the identified gaps in the assessment.

Further Information:
ISO 55000 – Asset Management
UKRLG – Well-managed Highway Infrastructure

Table Q1: Improvement action plan.

Module	Action	Measure	Responsibility	Year
I – EXECUTIVE SUMMARY	Review	Updated module	Senior Highway Asset Management Technician	2026
II – CONTENTS & GLOSSARY	Review	Updated module	Senior Highway Asset Management Technician	2026
III - CONTEXT	Review	Updated module	Senior Highway Asset Management Technician	2026
A - MANAGEMENT AND ORGANISATION	Review	Updated module	Senior Highway Asset Management Technician	2026
B - LEVELS OF SERVICE	Review	Updated module	Senior Highway Asset Management Technician	2026
C - COMMUNICATIONS AND STAKE HOLDER ENGAGEMENT	Review	Updated module	Senior Highway Asset Management Technician	2026
D - FINANCE	Review	Updated module	Senior Highway Asset Management Technician	2026
E - INVESTMENT STRATEGIES AND LIFECYCLE PLANNING	Do Investment planning for all highway assets	Updated module	Senior Highway Asset Management Technician	2026√
F - DELIVERY PROGRAMMES	Update	Updated module	Senior Highway Asset Management Technician	2026
G - ASSET KNOWLEDGE	Review	Updated module	Senior Highway Asset Management Technician	2026
H - HIGHWAY HIERARCHY AND NETWORK MODEL	Update model as necessary	Updated module	Senior Highway Asset Management Technician	2026

Module	Action	Measure	Responsibility	Year
I - PERFORMANCE MANAGEMENT AND MONITORING	Update Performance Indicators	Updated module	Senior Highway Asset Management Technician	2026
J - ASSET VALUATION AND REPORTING OF INFRASTRUCTURE ASSET VALUES	In light of changing WGA requirements develop valuation model	Updated module	Senior Highway Asset Management Technician	2026
K - CLIMATE ACTION AND SUSTAINABILITY	Review sustainability needs in light of government directives.	Updated module	Senior Highway Asset Management Technician	2026
L - RESILIENCE AND RESPONSE FOR ADVERSE WEATHER	Review	Updated module	Senior Highway Asset Management Technician	2026
M - FUTURE DEMAND AND ADAPTABILITY	Review	Updated module	Senior Highway Asset Management Technician	2026
N - STREETSCAPE AND BIODIVERSITY	Review sustainability needs in light of government directives.	Updated module	Senior Highway Asset Management Technician	2026
O - SKILLS AND COMPETENCIES	Review	Updated module	Senior Highway Asset Management Technician	2026
P - BENCHMARKING AND CROSS BOROUGH WORKING	Review	Updated module	Senior Highway Asset Management Technician	2026
Q - IMPLEMENTATION AND IMPROVEMENT PLAN	Review	Updated module	Senior Highway Asset Management Technician	2026
A – Highway Asset Management Policy Framework and Strategy	Review	Updated module	Head of Highway Operations	2026

APPENDICES

Ref.	Description	Responsibility	Latest Version
Appendix A	Highway Asset Management Policy and Strategy	Head of Highway Operations	August 2022