



**Barking &
Dagenham**

Highways Asset Management Plan

2025



Version History

Version	Date	Description	Prepared by
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Contents

LBBD in Context.....	1
Context	2
Borough Details	4
Asset Management Framework	7
Strategies and Activities	9
Performance Management	12
Stakeholder Engagement.....	13
Service Delivery	15
Data-Driven Decisions	16
Asset Knowledge.....	17
Funding & Investment.....	20
Maintenance Strategies	22
Designing for Maintenance	28
Sustainability & Resilience.....	29
Adapting to Climate Change	30
Network Resilience & Emergencies	34
Benchmarking & Improvement	36
Training and Competencies	37
Benchmarking with Other Authorities	38
Improvement Plan Implementation	39

List of Figures

Figure 1: Highway Network Assets	2
Figure 2: LBBD location and key transport links	4
Figure 3: Key transport connections within the borough	5
Figure 4: The 7 neighbourhoods that make up LBBD	5
Figure 5: TfL Healthy streets approach	6
Figure 6: Asset Management Framework.....	8
Figure 7: LBBD Core Values, Corporate Plan (2023-26).....	9
Figure 8: Highway Performance Objectives and Asset Management Activities.....	10
Figure 9: LBBD Highway Performance Objectives	11
Figure 10: Internal and External Stakeholders	13
Figure 11: Communication methods with external stakeholders	14
Figure 12: Asset data information	17
Figure 13: LBBD Historic Funding.....	21
Figure 14: Works programme development process	23
Figure 15: Council reduction approaches	30

List of Tables

Table 1: LBBD Key Performance Indicators	12
Table 2: Service providers and responsibilities	15
Table 3: LBBD asset inventory	18
Table 4: Network hierarchy ruleset.....	18
Table 5: Planned, Reactive and Routine Maintenance Activities	22

Abbreviations

AI	Artificial Intelligence
ALARM	Annual Local Authority Road Maintenance
AMMA	Asset Management Maturity Assessment
BCI	Bridge Condition Indicator
BPRN	Borough-maintained Principal Road Network
CMS	Central Management System
DfT	Department for Transport
EV	Electric Vehicle
FNS	Footway Network Surveys
GP	General Practitioner
HAMP	Highway Asset Management Plan
HIAMG	Highway Infrastructure Asset Management Guidance
ISO	International Organisation for Standardisation
LBBD	London Borough of Barking and Dagenham
LFRMS	Local Flood Risk Management Strategy
LoBEG	London Bridge Engineering Group
LoHEG	London Highways Engineer Group
LoTAG	London Technical Advisers Group
NHS	National Health Service
NPFF	National Planning Policy Framework
NWSRG	National Winter Service Research Group
PAS	Publicly Available Specification
PROW	Public Rights of Way
RMS	Road Management Services
SME	Small and Medium-sized Enterprises
TfL	Transport for London
TSS	Traffic Sensitive Streets
VCSE	Voluntary Community Social Enterprise

Foreword

We are London's growth opportunity and continue to join forces to embrace and harness this change, so it benefits everyone. Our vision drives the business of the Council, as we work together with our colleagues, partners, and residents to improve opportunity, prosperity, health and wellbeing and the physical environment.

The London Borough of Barking and Dagenham is situated in northeast London and is located at the heart of the Thames Gateway area. The borough has an area of 3,611 hectares and a population of approximately 232,747 (Office for National Statistics 2024 Population Estimates).

The borough is mainly residential in character with the main town centres located in Barking, Dagenham Heathway and Chadwell Heath, supported by a network of essential local community neighbourhood hubs.

Barking and Dagenham's transport network is focused along key strategic corridors, linking east and west into central London and Essex. This reflects the important relationship the Borough has both in terms of its relationship with London but also the wider southeast region. Important strategic transport routes pass through the borough including the A13, A12 and the London to Southend Railway.

The development of the Borough has been influenced by these strategic routes with neighbourhoods planned around stations and industrial and commercial areas along the A13. Major centres such as Barking and Dagenham are important transport hubs and commercial centres where significant growth is planned. Investing in new transport connections and enhancing existing infrastructure is essential to support the delivery of Good Growth in these locations.

Barking and Dagenham has a unique relationship with the car – being the home of the Ford Dagenham Plant that manufactured over 10million cars over its life. Now the focus of engine manufacture, the plant is at the heart of a new industrial and commercial cluster focused on green energy and advanced manufacturing. We need to support the transition towards a fully electric vehicle future in the borough, whilst increasing choice for local people to use other modes of transport. Maintaining and enhancing our Public Highways, ensuring it remains fully accessible, well maintained and adaptable is essential.

The Borough Public Highway infrastructure asset has a current net value of in excess of **£1.04 Billion**. It is one of Barking and Dagenham's most important assets and in these financially demanding times it is essential that we manage our assets effectively prioritising our spending to ensure safety is maintained, we deliver value for money, and our Network remains fully accessible and fit for purpose.

This Highway Asset Management Plan (HAMP) sets out how we currently manage and maintain the significant assets we have, how we will use our resources and identifies how we can continue to improve the services we provide whilst managing these essential assets.



Councillor Kashif Haroon
Cabinet Member for Public
Realm & Climate Change

LBBD in Context



Context

The London Borough of Barking and Dagenham (LBBD)’s highway network is critical to life within the borough. 370 km of highway network facilitates daily movement and keeps local communities connected to essential services like schools, emergency services and supermarkets, while supporting effective trade and commercial activity.

LBBD act as the Highway Authority and are responsible for the maintenance of the network under the Highways Act 1980 Section 41 to ensure that “the highway network is accessible and maintained to a safe and serviceable condition, minimising risk to users and safeguarding the connections that support jobs, businesses and communities”. To meet its duties, LBBD adopts a risk-based, sustainable approach to managing its assets. **Figure 1** outlines the assets which LBBD are responsible for maintaining.

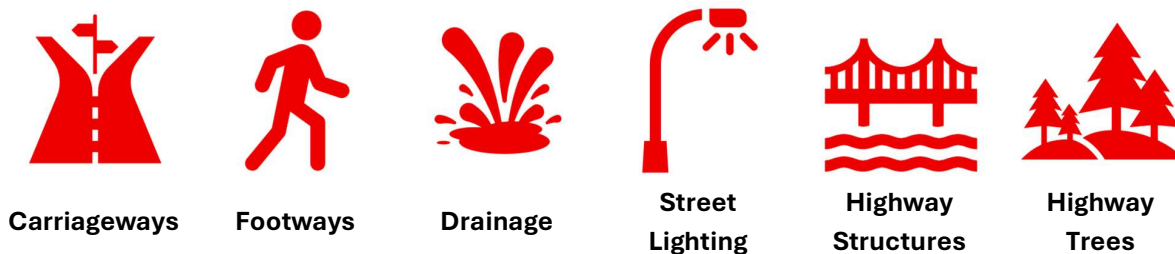


Figure 1: Highway Network Assets

Highways Asset Management

Asset management is defined as the “coordinated activities of an organisation to realise value from assets” according to ISO 55000 ‘Asset Management’. It is a best practice approach to manage public assets, ensuring value for money and long-term sustainability. The council operates a risk-based approach in line with the industry guidance of the Code of Practice for Well Managed Highways (2016). This approach allows the council to allocate resources to the areas where it is needed.

To support the implementation of an asset management approach, LBBD has defined a strategic vision to realising value through its highway infrastructure in **Strategies and Activities**. This ensures that the Council implements risk-based, data-driven maintenance strategies that support outcomes and objectives set out in the Council plans, comply with legislation, and deliver value for money for residents and users.

Purpose of this document

With funding for the management of assets under continuous scrutiny and an increasing pressure for transparency from both the public and central government, this Highways Asset Management Plan (HAMP) helps bridge the gap between the strategic priorities and operational practises of for LBBD.

Highway Authorities are required by the Department for Transport (DfT) to demonstrate effective management decisions, resource allocation and highway activities. This HAMP sets out LBBD's approach to managing highway assets, in line with legislation, engineering guidance, best practises and council wide strategic objectives, supporting the council to:

- Comply with legislative duties and best practises.
- Align with Council plans and policies.
- Support wider national and regional priorities and aims.
- Ensure decisions prioritise the long-term economic and environmental sustainability the community.
- Justify engineering decisions to the public, leaving no one behind.
- Measure performance against long-term targets.

This strategic plan outlines the Council's commitment to improving the Highway Service and ensuring that LBBD is able "to harness the growth opportunity that arises from our people, our land and our location, while ensuring it is sustainable and improves prosperity, wellbeing and participation for all". (Local Plan 2020-2037).

Borough Details

As outline in the Local plan 2020-2037 “LBBD is located between the City of London, the UK’s financial centre, and the M25 motorway which circles the capital. It is London’s single biggest growth opportunity with some of the best-value land for development, including many of the capital’s largest stretches of undeveloped riverside frontage, and the most affordable premises for large and small businesses in London.” **Figure 2** shows LBBD position within the wider region and outlines the key transport networks which influence the borough.

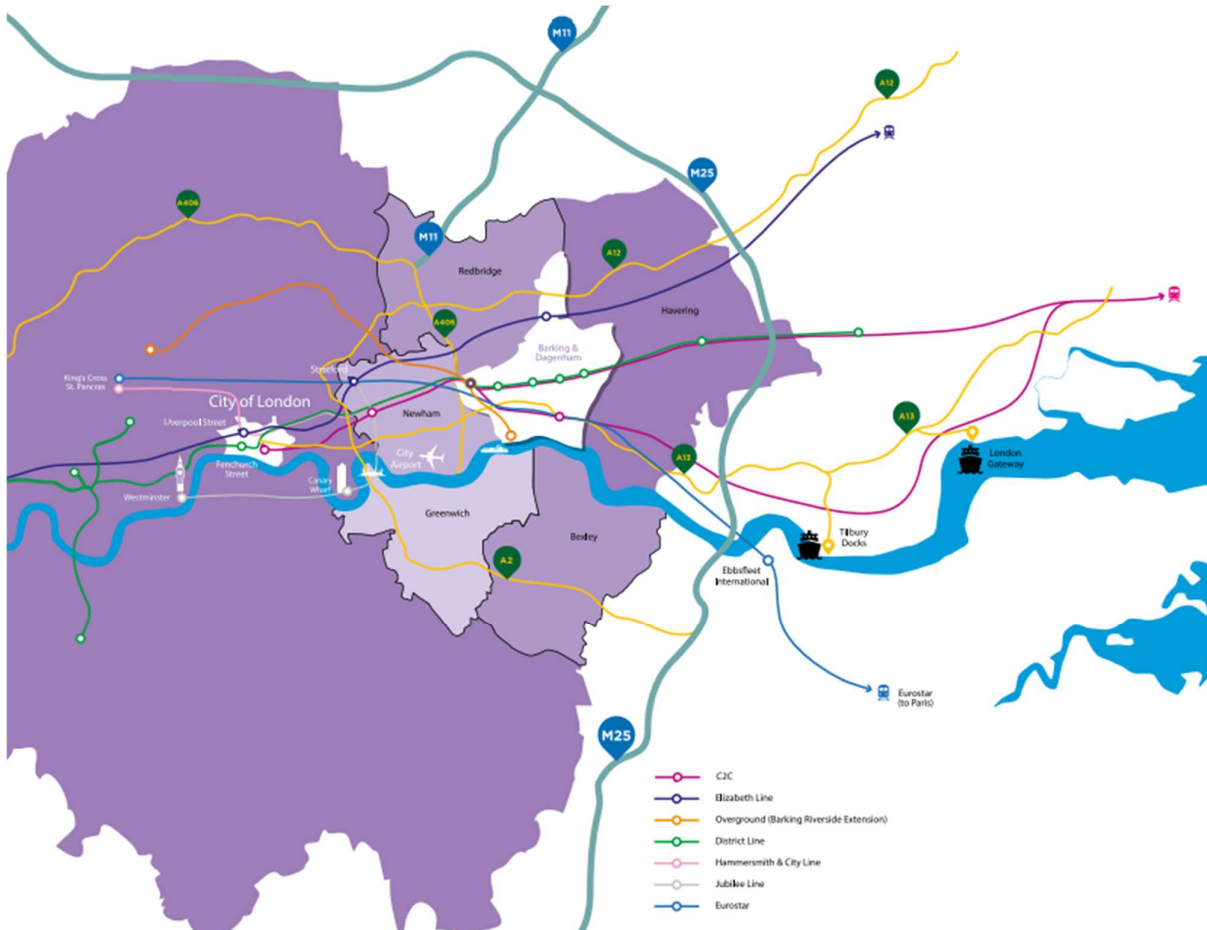


Figure 2: LBBD location and key transport links

LBBD is well-connected, served by a transport network that supports a wide array of travel methods. The borough benefits from access to the public and active transport options set out in **Figure 3** and is also intersected by the A12 in the north and bordered on the west by the A406 (managed by transport for London (TfL)), and intersected in the south by the A13 (managed by Road Management Services (RMS) on behalf of TfL). These arterial routes provide further connections to Nation Highways (NH) routes such as the M11 and M25.



Figure 3: Key transport connections within the borough

The local highway therefore plays a vital role in connecting the public to the wider city and needs to be maintained to ensure key transport links are easily accessible. As such, the council uses the highway to connect LBBD's people to their daily routines, supporting an interdependent society of professionals, students, and residents. With 7 local neighbourhoods (Figure 4), over 200,000 residents, and industrial developments to the south, the local highway network keeps the borough connected.

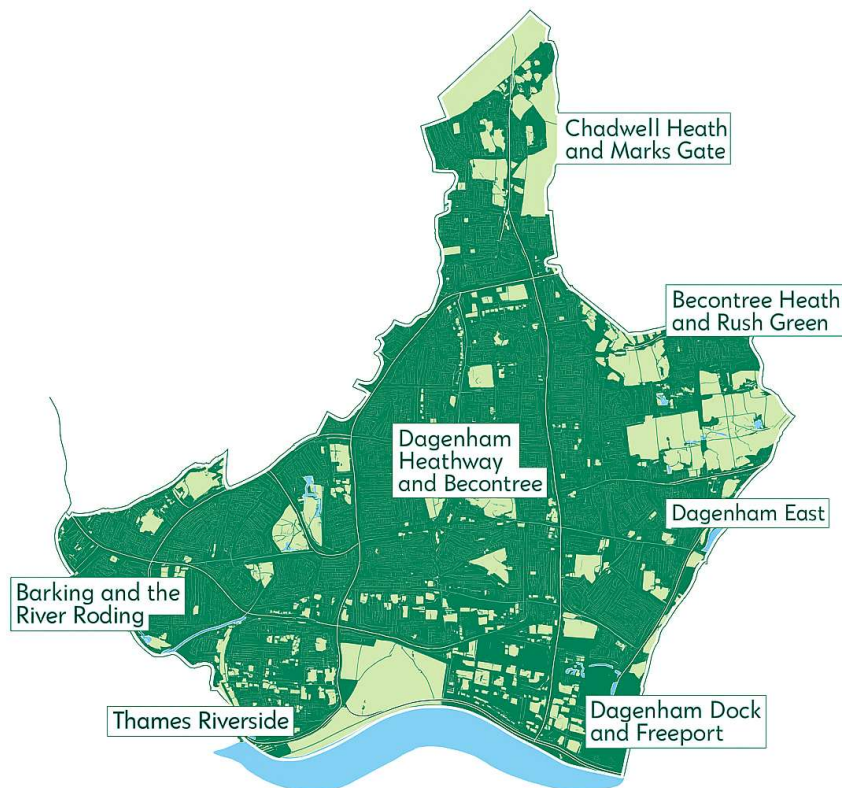


Figure 4: The 7 neighbourhoods that make up LBBD

Current Challenges

LBBD is actively tackling the stresses on the network. The council is working to address connectivity giving residents in the north better access to industrial districts and work opportunities in the south, strengthening the economic growth of the borough. Addressing the borough's transport and cycling infrastructure, will also reduce the pressure on the A13's capacity restraints and improve congestion and air quality on major highway links.

As stated in the Local Plan (2020-2037) “The health of our residents is worse than in other parts of London, with lower life expectancy and higher levels of child obesity”, the borough also faces significant health challenges. LBBD is seeking engagement with relevant stakeholders, such as the health department, to develop actionable solutions that could be implemented on highways. For example, maintaining active travel routes or restoring and increasing green infrastructure. Ultimately, LBBD realises the impact the local environment has on public health factors, and where it can, aims to use highways to turn these challenges into opportunities for growth.

Transforming LBBD

New schemes across LBBD are transforming the borough, with new developments like Barking Riverside aiming to model what sustainable living in London looks like for the 21st century. Outlined by the NHS and the Mayor’s Transport Strategy (MTS), the 10 principles for Healthy Towns and the Healthy Streets Approach (**Figure 5**) have driven the project to foster wellness and improved quality of life in the area.



Figure 5: TfL Healthy streets approach

To achieve some of the aims of the healthy streets approach LBBD are promoting a shift to sustainable modes of transport (walking, cycling and public transport) with less dependency on car use. This will be achieved by a combination of behavioural change and education initiatives, prioritising new infrastructure all underpinned by policies surrounding new developments as outlined in the Local plan (2020-2037).

Asset Management Framework

The Asset Management Framework outlines the structured approach utilised by LBBD to efficiently and systematically manage its assets. It outlines the policies in place to support the appropriate management of the highway network in a cost-effective safe and sustainable manner.

With this framework, LBBD are able to identify a clear link between the high-level drivers of the Council as set out in the Local Plan objectives and the strategic direction set out for highway asset management. This enables a top-down approach for implementing asset management at strategic, tactical and operational levels is set out. These drivers include relevant legislation, policies, guidance documents and LBBD's strategies and plans for the highway network.

The asset management framework is governed by five groups:

- **Legislation:** It sets out the statutory duties LBBD must legally adhere to when undertaking highway management and maintenance.
- **National & Regional Policy:** It consists of the policies set at national and regional levels to inform Lewisham's Strategies and Plans, meeting its local context and needs.
- **Guidance Documents:** This is the guidance setting out best practice methods to support consistent, effective, and informed decision-making for Highway Asset Management.
- **Council Strategies & Plans:** The key priorities for future development across LBBD are outlined.
- **Highway Asset Management Plan:** LBBD's Asset Management approach for the highway network is established in this document, and its alignment with official documents regarding this approach.



Figure 6: Asset Management Framework

Strategies and Activities

Core Values

LBBD are guided by 8 core principles as outlined in the Corporate Plan (2023 -26) and shown in **Figure 7**.



Figure 7: LBBD Core Values, Corporate Plan (2023-26)

LBBD uses these values to ensure safe, sustainable and economically significant decisions are made. They support the council’s ambition of making the borough a place people genuinely want to “live, work, study and stay” Corporate Plan (2023 -26).

Building from the Corporate Plan (2023-26), the Local Plan (2020-2037) outlines Strategic Policies Delivering Growth (Level 1 of **Figure 8**). To ensure that the highway maintenance service aligns with these policies LBBD have developed a series of Highway Performance Objectives (**Figure 9**), these provide LBBD a baseline to monitor performance against (see **Performance Statements**). Further to the Highway Performance Objectives LBBD have created a series of Asset Management Activities (Level 3 of **Figure 8**) highlighting the work that is conducted to deliver on the overall aims. This HAMP focuses how future Asset Management Activities will help the council meet high-level Highway Performance Objectives.

Barking and Dagenham in Context

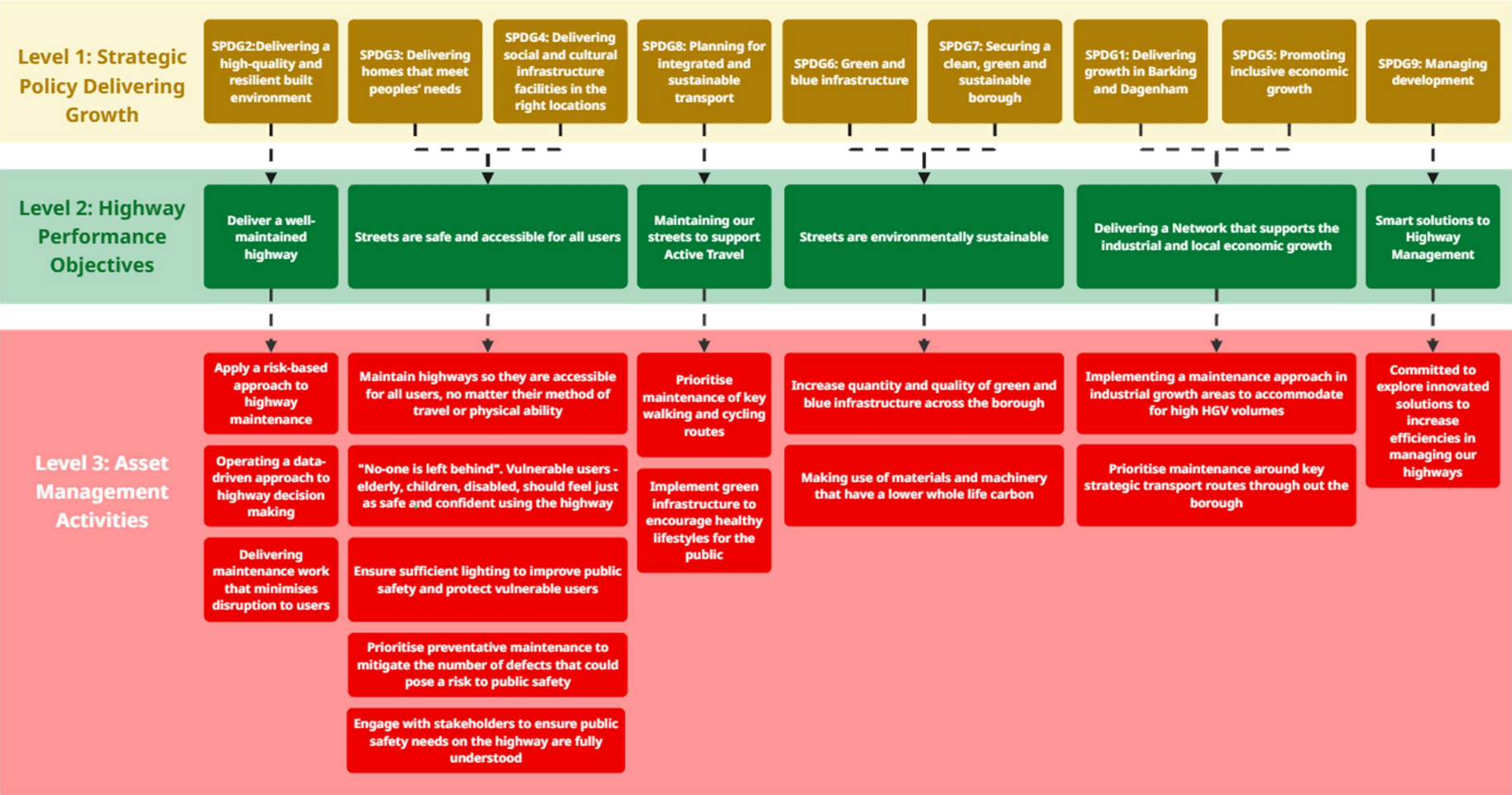


Figure 8: Highway Performance Objectives and Asset Management Activities



Figure 9: LBBD Highway Performance Objectives

Performance Management

Performance monitoring and management is important to ensure the required level of service is maintained. LBBD have developed a set of Key Performance Indicators (KPIs) derived from the Highway Performance Objectives (**Figure 9**) to track progress against specific progress and measure overall success of the service. These indicators inform long-term strategies such as investment decisions, to understand the levels of funding needed to reach the intended level of service. They are essential in decision-making processes relating to prioritising interventions, tracking service performance and determining the effectiveness of maintenance processes and activities.

Performance Statements

Table 1 outlines how the council plans to meet Asset Management KPIs.

Table 1: LBBD Key Performance Indicators

Key Performance Indicators	25/26	Target
Deliver a well-maintained highway		
Condition of non-principal classified B & C roads (% considered for maintenance)		
Condition of unclassified roads (% considered for maintenance)		
Reactive Maintenance Tickets Issued to address Highway defects		
Bridge Condition Score		
Gully Cleaning Programme		
Streets are safe and accessible for all users		
Borough Annual Accident Statistics (TfL Collated)		
Road Safety Concerns Identified and Actioned.		
Street Lighting Units Operating (% in illumination)		
Maintaining streets to support Active Travel		
Investment in Active Travel infrastructure, and the Public Realm.		
Modal Shift to Active modes of Travel (Annual trends)		
Streets are environmentally sustainable		
Protecting our Highway green spaces and Increasing our Street Trees and vegetation		
Sustainable construction works, recycling and reduced construction waste		
Public Electric Vehicle Charging Points.		
Delivering a network that supports industrial and local economic growth		
Condition of principal (A) roads (% considered for maintenance)		
Smart solutions to highway management		
Integrated technologies to improve management efficiencies, safety and compliance of our highway assets		

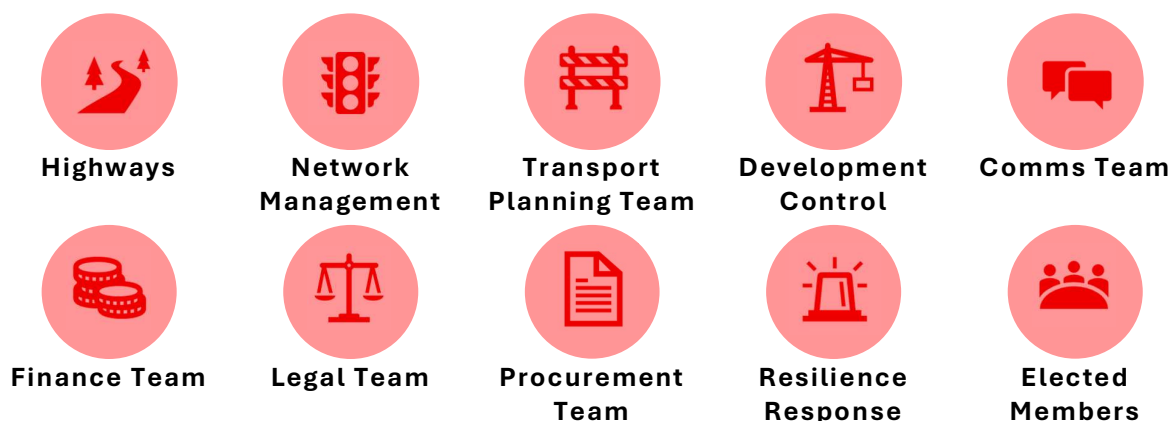
Stakeholder Engagement

Stakeholder engagement is the process of coordinating with key groups or individuals to inform the decision-making process. In line with the Local Plan's (2020-2037) ambitions to “harness the growth opportunity that arises from our people, our land and our location, while ensuring it is sustainable and improves prosperity, wellbeing and participation for all”, consideration of community needs is essential to ensure the social and economic benefits of highway investment are recognised.

Robust communication channels are important to facilitate this by providing the opportunity to consider input from residents and businesses. Highway officers also engage with other key stakeholders before making decisions. This ensures that services are delivered effectively and efficiently, maintenance works cause minimal disruption and provide value for money, considering engineering and technical need.

Stakeholders include third-parties who are directly involved in highway decisions (e.g. utility providers, neighbouring authorities, TfL), highway users who rely on the network for transport and businesses which need resilient infrastructure to support economic activity. **Figure 10** details the internal and external stakeholders involved in highway asset management.

Internal Stakeholders



External Stakeholders



Figure 10: Internal and External Stakeholders

External Stakeholder Engagement

The council employs a customer-led approach through co-production with residents and community groups like the Voluntary Community Social Enterprise (VCSE) to ensure that investment decisions respond in a prompt and positive way to the community's needs.

Highway authorities consider the voices of the local community directly through consultation and shared platforms like the Citizens Alliance Network. While stakeholders are encouraged to influence asset management decision-making processes, the council's priority remains ensuring that a safe, well-functioning network serves all highway users equally.

It is essential for external stakeholders to have accessible two-way communication forms. Residents and visitors can report defects on the highway network on the [Council website](#). The reports are then inspected by Highway Officers and scheduled for repairs if they meet the required thresholds. Residents and businesses are informed about road works occurring on their street through letter drops, or the [roadworks webpage](#) for an overview of works planned across the borough. For any other enquiries, the main point of contact for residents and businesses are elected councillors. The methods of communication with external stakeholders are outlined in **Figure 11**.



Figure 11: Communication methods with external stakeholders

Engagement with internal stakeholders ensures effective collaboration between different council departments. The Highways Team liaises with the Network Management Team through regular meetings to notify upcoming works and gather information on utility works. Amendments to the works programme are made accordingly to prevent unnecessary damage to the network for any newly resurfaced roads. The coordination between different teams minimises disruptions to residents and businesses and streamlines maintenance activities on the streets.

Service Delivery

LBBD is committed to providing value for money as it delivers the highway asset management service. The council is dedicated to maintaining a high-quality outcome of services for all resident, LBBD champions in-house skills, local-knowledge and expertise and works in partnership with external service providers where required.

To deliver the best value outcomes the council will:

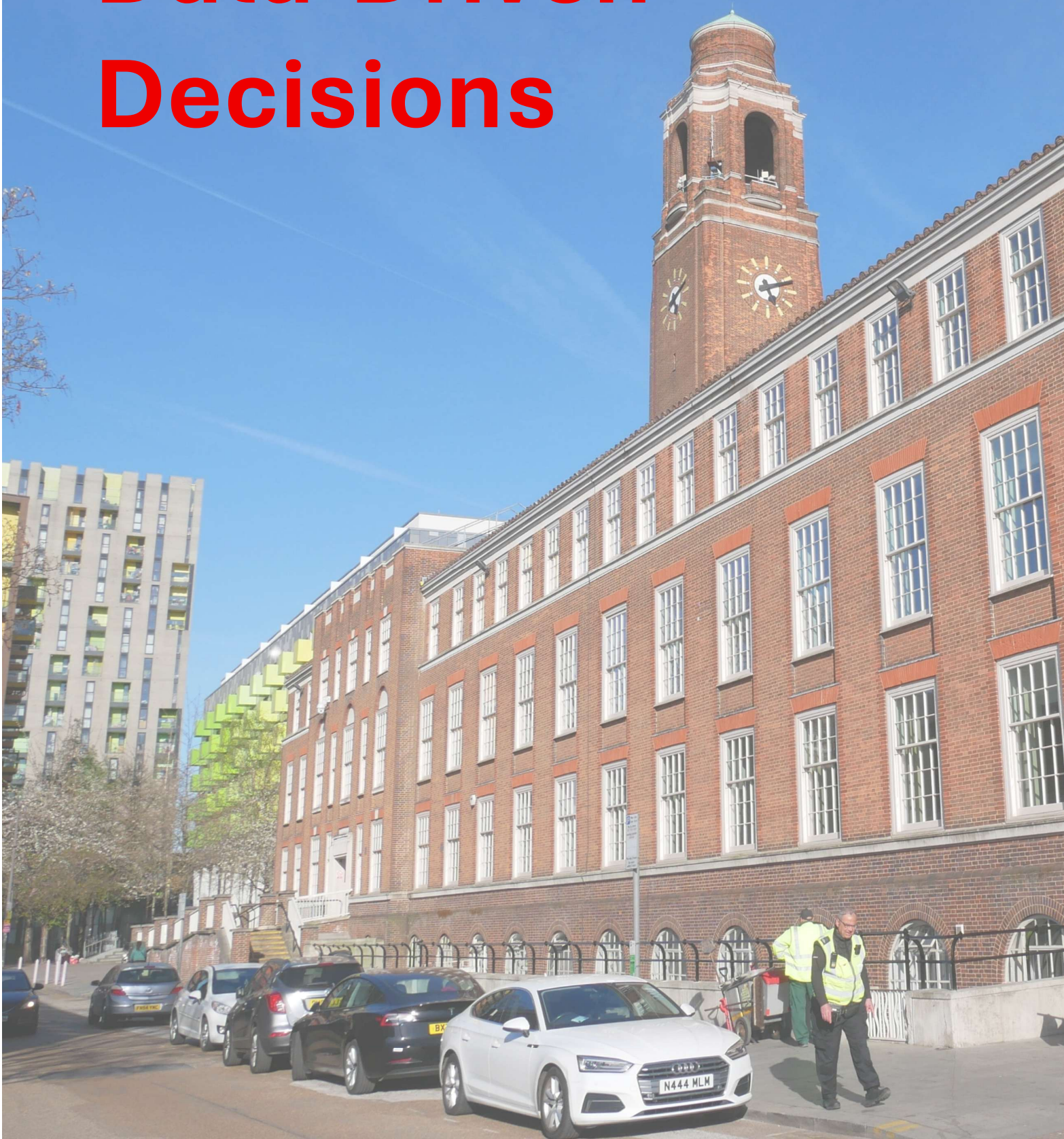
- Improve service outcomes through robust contract and value management.
- Use Service Providers to deliver corporate aims and support local people and SMEs.
- Explore and invest into more innovative, sustainable opportunities.

LBBD complies with all relevant legislation, including the [Procurement Act 2023](#), to ensure that public tendering processes are conducted to maintain fair competition and uphold best practice. LBBD liaises with its service providers regularly to increase collaboration and improve outcomes, and has set in place a review process that provides a high level of auditability and transparency, with consideration of commercial confidentiality. **Table 2** below shows the different service providers employed by LBBD.

Table 2: Service providers and responsibilities

Stakeholder		Services & Responsibilities
Highway Authority		
LBBD	Highways Team	Highway management and asset maintenance
	Grounds Maintenance Team	Highway trees inspections and maintenance
	Delivery	Public realm and traffic design and build
Transport for London		Operate public transport and maintain TfL Road Network, traffic signals, bus stops and speed cameras.
Term Maintenance Contractor		
TBC		Planned carriageway and footway maintenance works
		Reactive maintenance works
Reactive Maintenance Team		Gully inspection and cleansing
		Winter service
TBC		Street lighting inspections, testing and maintenance works
Professional Services Consultants		
Various Consultants		Some design, data collection and consultancy activities may be outsourced to specialist consultants.
Other Third-Parties		Statutory Undertakers, such as utility companies, and other third-party assets (e.g. cycle hire, EV chargers).

Data-Driven Decisions



Asset Knowledge

To fulfil the statutory duties to maintain the public highway, LBBD requires an understanding of the size and performance of its highway asset base. This knowledge is key to making robust asset management decisions and supporting the effective delivery of maintenance activities. The types of information collected and stored for assets are set out in **Figure 12**.

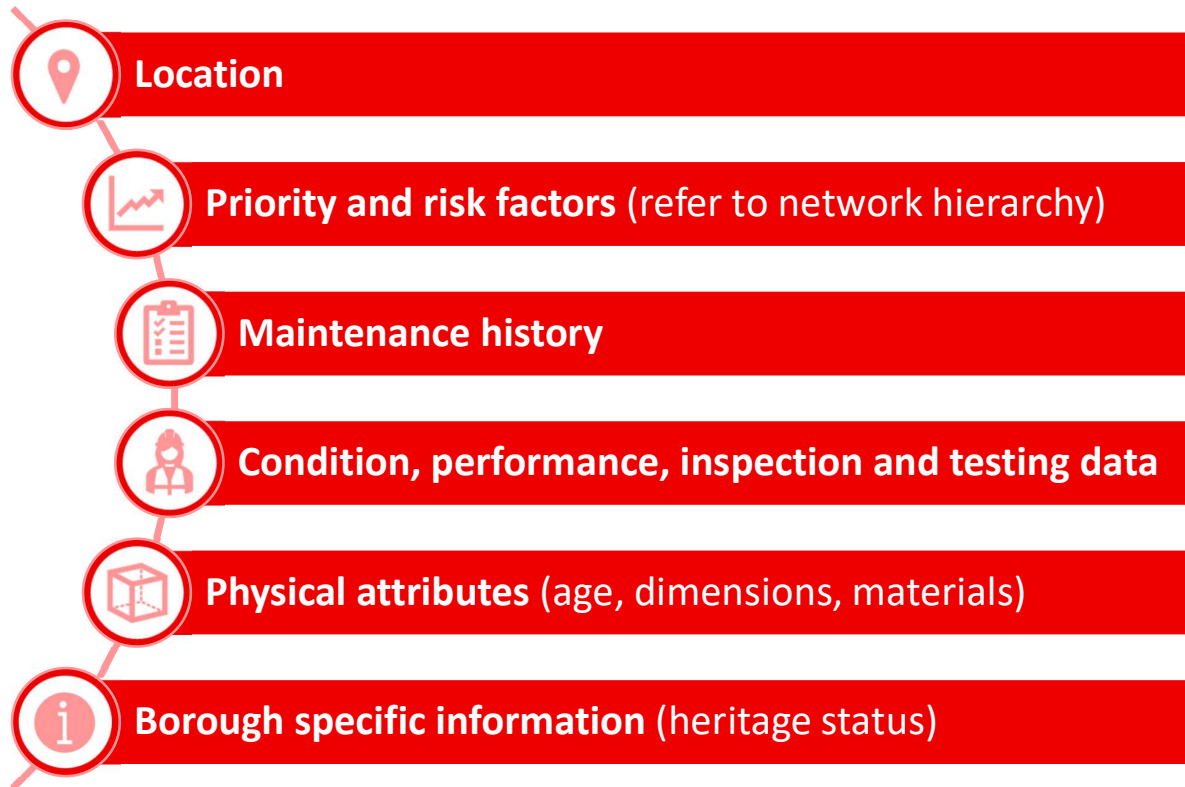


Figure 12: Asset data information

Asset Data

Highway officers rely on accurate and up-to-date Asset Knowledge to ensure decisions are risk-based and support the economic sustainability of the borough. Good data informs good decisions, and the council acknowledges the importance of keeping well-collected, up-to-date and safely stored data in asset management systems.

The **Table 3** outlines the Highway asset inventory and management systems used for storing asset knowledge within the borough.

Table 3: LBBD asset inventory

Asset Type and Category		Inventory	Asset System
Carriageways	Principal (A)	37.3km	Confirm
	Non-Principal (BCU)	305km	
Footways	Footways	558.5km	
Public Rights of Way	PROW	16km	
Cycleways	Off carriageway cycleways	58.8km	
Street Furniture	Bollards	2500	
	Signs	5000	
Street Lighting	Street Lighting Columns	16,075no.	Mayrise
	Illuminated street furniture	2,809no.	Confirm
Highway Structures	Bridges and Structures	42no.	BridgeStation
Drainage	Gullies	16,786no.	Confirm
Street Trees	Street Trees	5,000no.	

Network Hierarchy

The Network Hierarchy sets out the relative risk across the borough's public highways and forms a fundamental part of LBBD's highway asset management approach, including the prioritisation of maintenance programmes and inspections.

LBBD has developed a risk-based Network Hierarchy, aligning with the guidance from the Code of Practice and the London Technical Advisers Group (LoTAG). The Network Hierarchy categorises every section of the Carriageway and Footway in LBBD, function of the section to determine its relative risk and importance to the network. The hierarchy informs other asset management activities such as the safety inspection regimes, works programmes and investment planning. The ruleset is provided in **Table 4** with risk features ranked from B to E with B signifying highest risk.

Table 4: Network hierarchy ruleset

Driver Group	Hierarchy Drivers	CW Hierarchy	FW Hierarchy
Essential Services	Hospitals	B	B
	Fire Stations	B	B
	Police Stations	B	B
	Ambulance Stations	B	B
Places of Education	Pupils ≥ 2000	B	B
	2000 > Pupils ≥ 1000	C	C
	Pupils < 1000	D	D
Traffic Generators	Barking Town Centre	B	B
	District Centre	B	B
	Neighbourhood Centre	C	C

Driver Group	Hierarchy Drivers	CW Hierarchy	FW Hierarchy
	Shopping Area	C	C
Public Transport	Train Station (>5 million pass.)	E	B
	Train Station (<5 million pass.)	E	C
	≥ 30 Buses	B	B
	30 > Buses ≥ 15	C	C
	< 15 buses	D	D
Cycleways	National Cycleway	C	E
	Shared Use Cycleways	E	C
Other	Vulnerable Users	D	D
	GP Centres	D	D
	Events Venues (>5000 capacity)	E	C
	Places of Worship	D	D
	Strategic Industrial Area	C	E
	Locally Significant Industrial Area	D	E
Resilience Network	Resilience Network	B	B

The Network Hierarchy sets out the relative risk across the borough's public highways and forms a fundamental part of LBBD highway asset management approach, including the prioritisation of maintenance programmes and inspections.

Funding & Investment

Investment into the public highway keeps the network running and functioning. Its quantity determines the potential for new improvements, maintaining a steady state or even controlling the rate of deterioration. With an asset value of **£1.04bn** it is essential that appropriate levels of funding are sourced and spent on the network efficiently to provide value for money for LBBB.

Funding, more specifically, highlights the financial resources the council has access to. Understanding funding helps the council realise its potential for growth, innovation, and turn strategic goals into actionable targets. The highway authority has a duty to allocate funding appropriately across the assets it is responsible for maintaining.

The council has an obligation, under the Highways Act 1980, to maintain the highway for both safety and function. This duty is performed within the context of reducing budgets, limited staff resources and increasing financial scrutiny. By ensuring robust Asset Knowledge, the council will be able to put forwards strong business cases for funding.

Highway Funding

The Highway Authority uses funding as an avenue to keep up to date with required highway maintenance. There are 2 types of funding streams outlined below.

Revenue Funding:

Budgets are in place to ensure the continuing serviceability and safety of the highway assets. Small scale defect repairs are put in place either in response to routine safety inspections or ad hoc inspections arising from stakeholder reports (e.g. reports from members of the public). Inspections are carried out on the highway network to identify where the performance of an asset has fallen below the levels of safety or serviceability with the need for defect repairs indicated by the defect exceeding intervention levels.

Capital Funding:

Capital investment results in planned maintenance that either extends the life of an existing asset or renews the asset. Such capital investment allows and requires pre planning with such items of investment being identified generally from condition inspections that are carried out on a routine basis.

Funding Sources

The core of LBBB's funding comes directly from the council, however to supplement this funding LBBB strives to stay abreast of changes in government funding strategies and opportunities to fund maintenance from third-party streams (such as the DfT and TfL). By ensuring robust Asset Knowledge, LBBB Officers will be able to put forward strong business cases for funding. **Figure 13** outlines the maintenance funding for the highway network from 2020/21 to 2025/26.

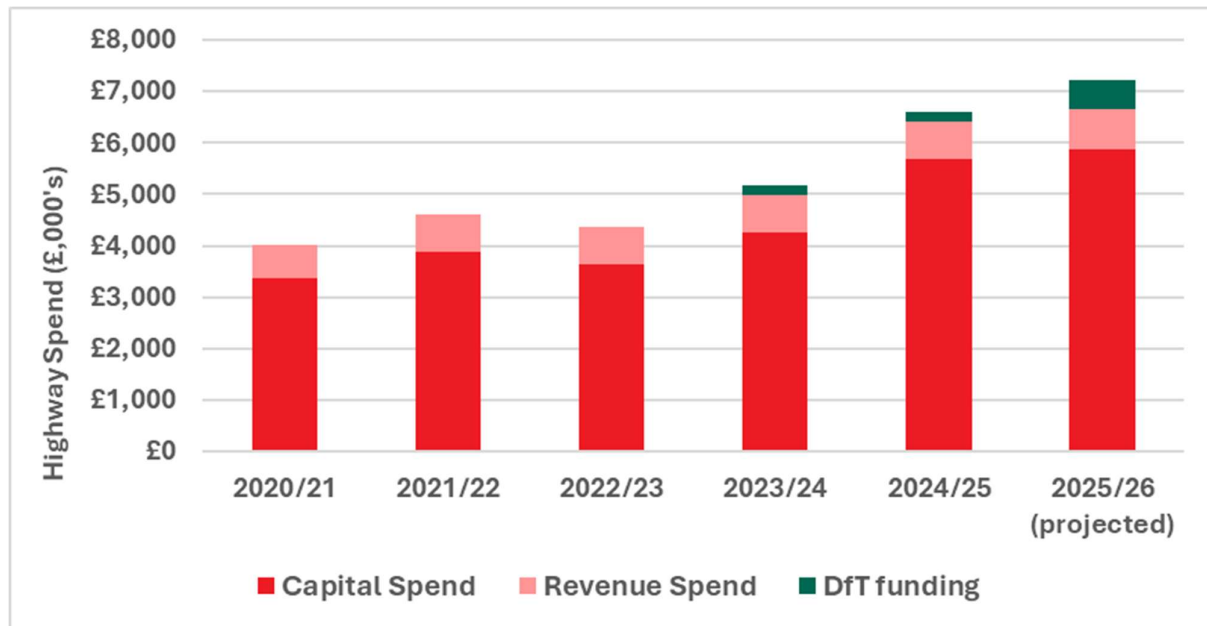


Figure 13: LBBD Historic Funding

Investment Strategy

LBBD will continually assess its future investment requirements by closely monitoring performance against KPIs and targets set in **Performance Management**. This proactive approach ensures that funding decisions are informed by up-to-date data, enabling the Council to respond effectively to emerging needs and maintain a high standard across the highway network.

Life cycle plans are developed to show what maintenance activities are required at the different stages of an asset's life cycle. LBBD use lifecycle planning to understand the current condition, backlog and future investment needed across the asset. Life cycle planning is used to highlight the importance of interaction between the 3 maintenance activities: routine, reactive and planned. Life cycle planning allows Highway Officers to understand:

- Funding required to maintain highway assets and manage backlog.
- Develop maintenance strategies which offer the best value over the whole life of an asset.
- Forecasted outcomes under different funding scenarios.
- Cross-asset prioritisation.

Understanding how the asset will behave under certain budget scenarios helps the council determine the level of investment they need to meet performance targets.

LBBD will use business cases for additional funding to support the council in meeting local priorities and initiatives. The council prioritises its investment using the risk-based approach. LBBD will use recent condition data, performance data and compare it to performance targets to allocate funding across its assets.

Maintenance Strategies

Effective maintenance and investment strategies are critical for preventing the deterioration of highway assets and addressing defects efficiently. These strategies ensure that available resources are allocated where they deliver the greatest value. This section outlines LBBD's approach to highway maintenance, supporting the objective of delivering a well-maintained network (**Figure 9**).

Maintenance Strategies

LBBD council utilise a combination of maintenance activities to ensure that the network is safe and meets the needs of the public. The type of activities delivered within LBBD's highway service are detailed in **Table 5** alongside their respective teams.

- **Planned:** Planned works to extend an asset's life, renew or replace the asset.
- **Reactive:** Unplanned works to tackle safety issues and emergencies identified via inspections or reports.
- **Routine:** Regular, scheduled work to maintain assets in a safe and serviceable state.

Table 5: Planned, Reactive and Routine Maintenance Activities

Planned Maintenance	
Carriageway Resurfacing	Highways
Footway Repaving & Reconstruction	
Winter Gritting	Planned/Reactive Maintenance Team
Reactive Maintenance	
Safety Defect Repairs	Highways
Gully Blockages	
Street Lighting Faults	
Routine Maintenance	
Highway Safety Inspection Regime	Highways
Gully Cleansing Regime	
Street Lighting Inspections	
Structural Inspections	
Tree and Planter Inspections	Grounds Maintenance Team

These maintenance activities are carried out following a risk-based approach to prioritise safety and accessibility.

Works Prioritisation

The council prioritises maintenance activities for the highway using a risk-based, data-led approach. Developing a programme provides a greater transparency of works and allows for more collaboration between different highway related works to streamline operations and reduce disruption.

LBBD develops works programmes using the Highway Surveyors condition surveys results in conjunction with the following parameters:

- Engineering need
- Asset condition
- Social benefit

The process in developing this works programme is shown in **Figure 14**.

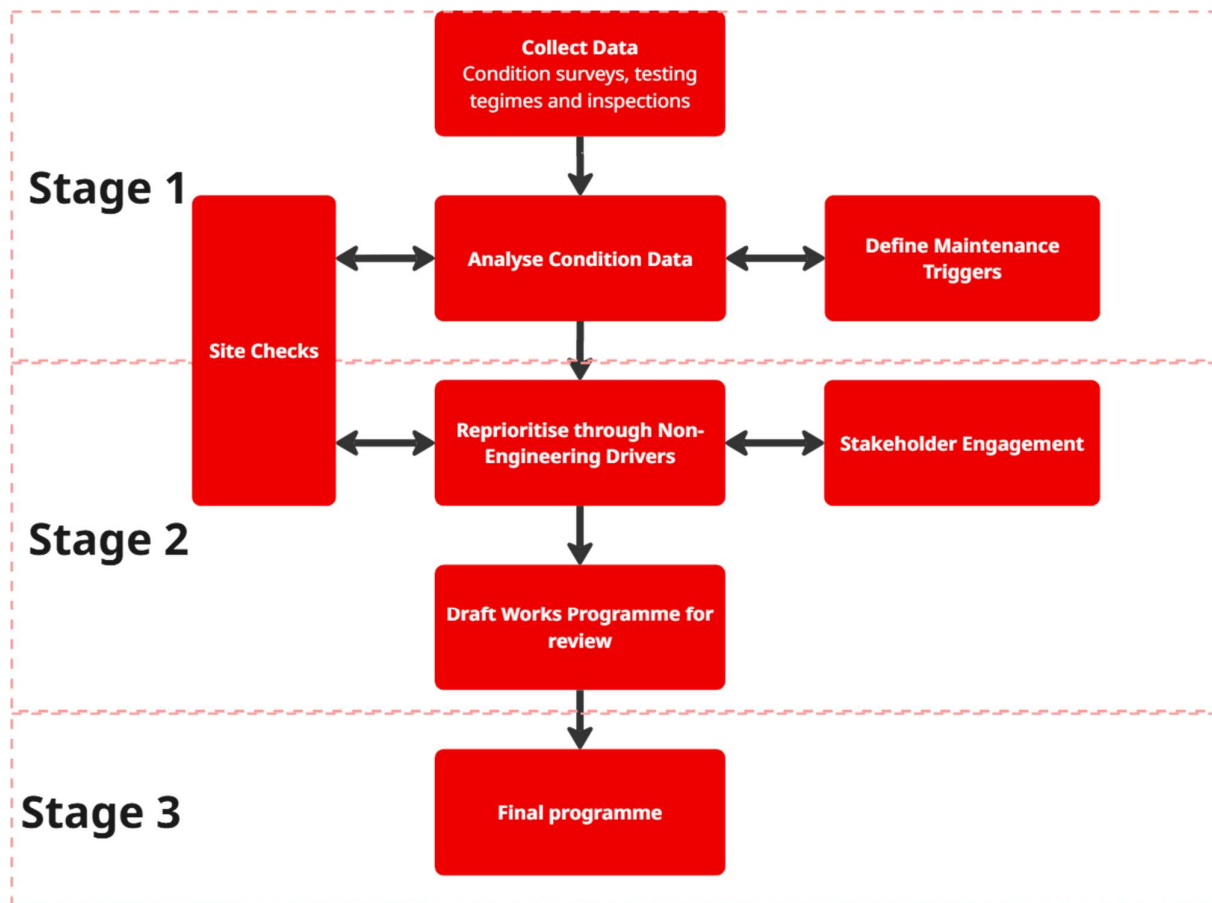


Figure 14: Works programme development process

Stage 1:

Condition surveys results are analysed to provide a priority list of all carriageway and footway works required. By analysing the defects against the various treatment options, a list of works is identified and prioritised. This priority list will then be supported through a driven site check on

a sample of the roads. This will ensure the maintenance activities which are being highlighted align with the desired outcomes of the **Strategies and Activities** and are triggering the right treatments.

Stage 2:

The prioritised schedule of works is re-prioritised through non-engineering criteria which will drive maintenance, in line with the **Network Hierarchy**. The criteria are weighted, and every road section is assigned a score which determines the priority ranking of each road. This ranking determines the schedule of works up to the available budget.

Stage 3:

The final programme is presented for final approval and endorsement before implementation. LBBD will continue to find opportunities to combine maintenance activities by liaising with internal and external stakeholders.

Carriageways and Footways

Each year, LBBD undertakes comprehensive carriageway and footway condition surveys across all roads in the borough. For LBBD managed carriageways artificial intelligence (AI) condition surveys are used to efficiently and objectively assess the condition of the roads and identify defects. In addition, the Borough-maintained Principal Road Network (BPRN) is surveyed annually by Transport for London (TfL) and the London Highways Engineer Group (LoHEG) as part of a wider pan-London programme, employing the same intelligence-based technology. Footways are assessed through Footway Network Surveys (FNS).

The collected condition data, alongside key priority factors (see **Works Prioritisation**), informs the development of forward works programmes, ensuring a coordinated and strategic approach to maintenance. Planned activities in LBBD consist of resurfacing, surface dressing, footway reconstruction or relaying.

While LBBD aim to prioritise planned maintenance to maximise wider benefits and provide value for money, regular safety inspections are also undertaken to capture safety critical defects. The **Network Hierarchy** determines the frequency of inspections, depending on the risk associated with the section. The defects are raised as reactive jobs to be completed within a timeframe aligned with the safety inspections risk assessment to ensure the network remains safe and serviceable. LBBD prioritises 4 defect categories based on immediate hazard to the public.

Category 1: Defects that require immediate response to protect the public (2-hour responses).

- Collapsed or missing drain covers
- Deep potholes
- Dangerous trees
- Spillages or leaks
- Structural or surface damage to the highway

Category 2: Defects that are to be temporarily or permanently repaired by the next day.

Category 3a: Defects which are not deemed to represent an immediate or imminent hazard or health risk. These defects are not urgent to repair and will be classified using the risk-based approach: based on location, severity and type of traffic using that road.

Category 3b: Defects that will be recorded in the highways Maintenance Management System but do not have any specific action or repairs required. They do not represent any immediate risk, but they are to be considered for future annual maintenance programmes.

This system helps to optimise council expenditure, ensuring that reactive maintenance is completed on defects that have the greatest risk to public safety.

Highway Structures

LBBD manages structure asset information using BridgeStation, a tailored London Bridge Engineering Group (LoBEG) system. To identify maintenance works highway structures are subject to 2 types of routine inspections – general and principal.

General Inspections are routine visual inspections of the accessible parts of a highway structure and are usually undertaken every 2 years.

Principal inspections refer to close detailed inspections of all components of the structure, typically carried out every 6 years. The council uses BridgeStation to maintain an accurate log of the bridge condition indicator for each structure – ranging from severe to very good.

Structures maintenance is then prioritised in line with guidance from, through the London Bridge Engineering Group (LoBEG) using the Bridge Condition Indicator (BCI), a national bridge performance indicator, and gives an indication on the condition of an individual structure ranging from severe to very good. The system links inspection records and condition scores to each asset, enabling the creation of a prioritised maintenance list which guides LBBD in undertaking planned structural or non-structural works:

- **Structural repairs:** ensure integrity and load-bearing capacity of the structure, such as repairs to abutments, joints, bearings, parapets and walls.
- **Non-structural repairs:** ensure serviceability, such as renewal of mechanical, electrical or lighting equipment, repainting or corrosion protection.

By carrying out routine inspections and planned works, LBBD aim to reduce reactive works needed on the structures to avoid major disruptions and prevent incidents. The need for reactive maintenance is dependent on the asset's safety risk, and the timeline for undertaking repair works is determined by the severity of the faults or defects.

Street Lighting

As outlined in the Corporate Plan (2023-26), LBBD is striving to achieve an inclusive network where “no one is left behind”. Well-maintained street lighting helps create a highway network where all users - regardless of age, gender, physical ability or mode of travel - can move safely

and with confidence. To help complete this aim in 2016 LBBD completed the transition to LED lighting for all streetlights across the borough to increase the reliability of the assets.

Aligning with GN22 – Asset-Management Toolkit: Minor Structures, LBBD measures performance of street lighting by monitoring the lighting through the Central Management System (CMS) and undertaking regular tests and inspections on all units within the borough. The tests include:

- Electrical testing
- Structural testing of columns
- Non-structural testing
- Visual inspection

From the inspections the following types of maintenance activities are carried out:

- Reactive maintenance:
 - Replacing lamps that have gone out
 - Repairing damage to lighting components e.g. columns
 - Repairing damage to any other components detected through safety inspections
- Routine maintenance
 - Changing of lamps
 - Cleaning
 - Inspecting
 - Performing necessary repairs to luminaires, columns and feeder pillars

The street lighting maintenance involves planned, routine and reactive regimes. LBBD prioritises planned and routine maintenance to extend the assets life and seeks to reduce reactive works by improving their asset knowledge and intervening promptly.

Drainage

Maintaining the council's drainage assets minimises disruption to road users by reducing the risk of flooding, premature road deterioration and safety hazards along the highway. Drainage systems are needed to capture runoff from carriageways.

LBBD routinely cleanse gullies in the borough to ensure they are operating at optimum level. The cleansing frequency is determined by the relative risk of gully to the drainage and highway network. The risk-based approach considers the following:

- Risk of Flooding
- Road Hierarchy
- Historic Flooding
- Tree Coverage

From this prioritisation the gullies are categorised into the following:

- **High priority** (regularly blocking) gullies are to be cleaned every 6 months
- **Medium priority** gullies are to be cleaned every year; and
- **Low priority** gullies are cleaned every 2 years as part of a rolling programme

To identify any civil maintenance work records are kept of any defects during routine cleansing alongside additional visual inspections of gullies which are included as part of carriageway and footway inspections. Once maintenance actions are identified, works are split into either reactive or planned depending on criticality. Planned replacement works are then prioritised based on the following:

- Whether the gully is functioning
- Is the gully in a flood risk area
- The impact on the local community

In 2017 LBBD developed a [Local Flood Risk Management Strategy \(LFRMS\)](#) which outlines the prioritisation process that will be adopted for drainage and flood alleviation schemes. Highways will co-ordinate and work with drainage teams to ensure works on highway drainage assets support the aims of the LFRMS.

Street Furniture

The overall objective of providing street furniture is to provide additional facilities to aid highway users in the safe and easier use of the highway network. LBBD maintain street furniture through identification of maintenance works as part of carriageways and footways inspections. Works are carried out at the following:

- All illuminated and non-illuminated traffic signs are maintained in compliance with relevant codes of practice.
- Traffic signs undergo service inspections to check the following:
 - Visual performance
 - Electrical safety
 - Structural integrity and
 - That they convey the intended message to road users.

Highway Trees

Highway trees are managed and maintained by LBBD's Parks Maintenance Team as detailed on the [council website](#).

LBBD maintain trees on cyclical pruning schedules. Some species of trees require pollarding, a pruning method that restricts the height of a tree. This can be either annually, 2 years or 3 years. Street trees are on a 4-year pruning cycle for non-pollarded trees. Pollarded trees are pruned every 1, 2 or 3 years. All trees are also inspected for health and safety issues every 4 years.

Designing for Maintenance

Designing for maintenance considers the risks and costs associated with highway maintenance over the asset lifecycle at an early stage of the decision-making process. It ensures a whole-life approach to asset management, and safeguards network resilience in the face of future challenges.

LBBD ensure maintenance strategies and investment plans promote whole-life value, as detailed in [Highway Funding](#) and [Maintenance Strategies](#). Key stakeholders such as maintenance contractors are involved during key design stages to highlight any issues that would hinder future maintenance requirements. Whole life carbon considerations are also considered as part of designing for maintenance, as detailed in [Net Zero Roadmap](#) to support LBBD's objective aim to become a Net Zero Council by 2030 and Net Zero as a borough by 2050.

Upon completion of schemes to maintain existing or construct new assets, highway officers will update the asset management systems to ensure appropriate long-term maintenance plans are put in place.

Sustainability & Resilience



Adapting to Climate Change

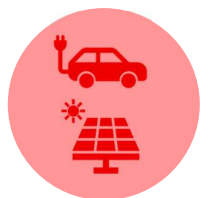
Highway activities matter beyond the borough's boundaries, with carbon intensive activities contributing to the increased frequency and severity of extreme weather events. Summers are expected to be hotter, winters are to be wetter, and in the context of highways this has several social, environmental and economic implications. It is in the council's best interest to reduce the direct impact of highway activities on local carbon emissions as this can lead to an increased rate of structural defects, safety hazards and pollution.

LBBD is meeting targets, maintaining environmental sustainability, and supporting local streets and the wider community, by:

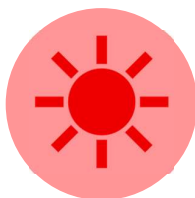
- Increasing green infrastructure through strategic walking and cycling routes.
- Developing new schemes like Barking Riverside – “London's first healthy new town”.
- Mitigating noise and light pollution across new developments in the borough.
- Utilising innovative renewable energy technologies.

Tackling Climate Change

The council is actively exploring new solutions to highway management, and where possible has exchanged traditional hard engineering for:



Decarbonised local energy systems



Energy efficient homes and buildings



A green local environment

Figure 15: Council reduction approaches

Air pollution exposes a local community of vulnerable children, elders and those with illness or disability to harmful toxins. The borough is planning to implement carbon-saving initiatives that will improve the borough's air quality. In LBBD's continued adoption of the “Health in all policies approach”, the council plans to implement things like school streets, car-free days and low carbon tools/machinery to reduce the borough's carbon footprint and ensure that highways are accessible for all road users.

Net Zero Roadmap

LBBD is taking ownership of the local carbon footprint, aiming for all council operations to be carbon neutral by 2030 and all borough activities by 2050. The council has produced a [Net Zero Roadmap](#), outlining the methods in which the council plans to achieve net zero goals. The core targets outlined in the road map are:

- Most journeys to be made with active travel by 2041

- Electrifying the LBBD fleet by 2050
- Use more fuel-efficient vehicles
- Reduce unnecessary HGV mileage

Increasing Green and Blue Infrastructure

Green and blue infrastructure increase the borough's resilience to the harmful impacts of climate change. They revitalise local ecosystems, act as a natural carbon sink for local transport emissions and provide improved shade, better air quality and wind deflection in peak weather conditions. LBBD is driven to plant more trees and prioritise maintenance along key walking and cycling routes - also encouraging active travel. The council is committed to creating sustainable streets that promote healthier lifestyles.

Sustainable highway management relates to the three pillars of sustainability – social, economic and environmental. Social and economic pillars are covered in previous sections of this HAMP, and so this section focuses especially on the environmental pillar of LBBD's Council's sustainable maintenance approach.

Highway activity directly impacts LBBD Council's sustainability as:

- It impacts the generation of sustainable communities
- It recognises social progress and needs to enhance social value to the local community
- It supports the development of sustainable engineering solutions
- It consumes large quantities of resources and generates large quantities of waste
- The extraction, processing and transportation of highway materials is a significant source of embodied carbon, particularly in the production of cement and asphalt

How will the council address sustainable maintenance?

Under the Local Plan (2020–2037), LBBD is equally committed to sustainable highway maintenance as it is to highway activities, thereby ensuring the council is accountable for managing operational carbon footprints. As illustrated in the recently updated PAS 2080, decision-makers will consider the following three actions as part of a 'Carbon Reduction Hierarchy' as shown below in Figure 16.

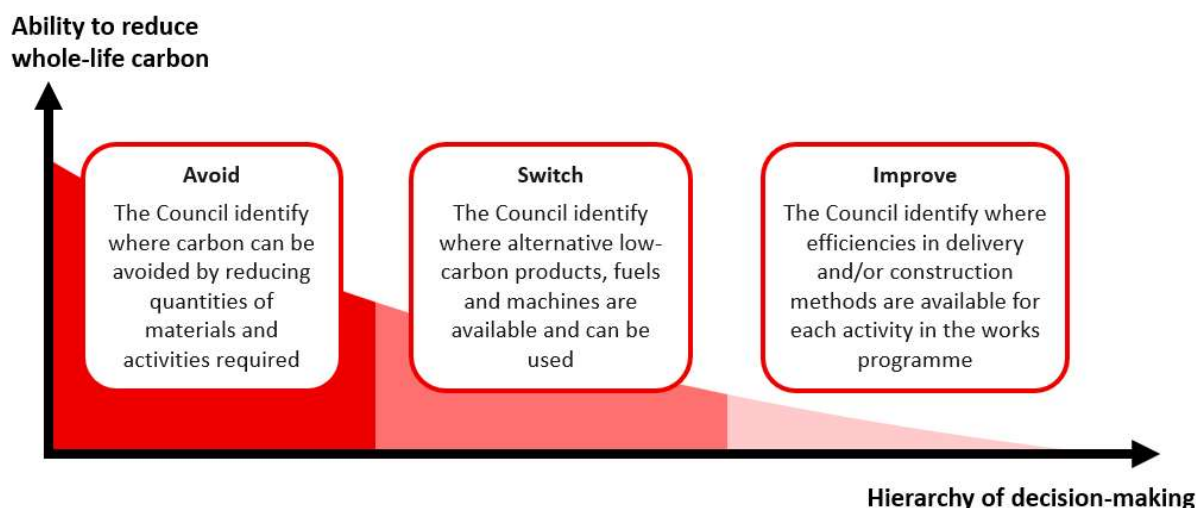


Figure 16: Carbon reduction hierarchy (derived from PAS 2080:2023)

- **Avoid:** Planning ahead through resilient design and optimised regimes assists the council in getting it right the first time, increasing durability and avoiding continuous maintenance.
- **Switch:** Where there are more sustainable alternatives, the council uses optioneering to reduce the whole-life embodied carbon and or increase the life and durability of assets.
- **Improve:** LBBD is constantly innovating, finding new ways to improve the end-to-end usage of built assets, from construction to usage to disposal. LBBD is eager to utilise smart and innovative solutions for efficient highway management. The council is “working in partnership” with relevant local stakeholders and incorporating smart systems that monitor space, materials and resources. The council is also exploring low carbon machinery and incentivising electrified fleet vehicles.

Designing for maintenance incorporates risk and cost-based decision-making into the early stages of new and existing public realm designs. Designing for maintenance ensures that highways within the borough are robust, resilient to external and environmental forces and built for future longevity.

LBBD will require that all parties undertaking works on public highways:

- Support the Councils [Green Infrastructure and Biodiversity Strategy](#).
- Mitigate adverse effects of machinery during development such as noise, vibration, odour fumes and artificial light.
- Apply the Healthy Streets approach, addressing health inequalities in street design and ensuring accessibility for all road users.
- Contribute to the borough-wide carbon neutral by 2050 goals.

Air Quality

Through the [Local Plan](#), LBBD outline the healthy streets strategy and are pursuing to expand infrastructure for walking, cycling, and other forms of active travel. This approach aims to reduce the volume of car journeys in the borough and encourage long-term behavioural change towards more sustainable modes of transport.

To better understand and respond to air pollution, LBBD have also secured funding from the Department for Environment, Food and Rural Affairs (Defra) to expand its air quality monitoring network. This data is vital to shaping targeted interventions that improve air quality and safeguard public health.

Highway maintenance works are supporting these goals through the phase out of hydrocarbon vehicles and minimising the usage of materials where possible that add harm air particulates into the atmosphere.

Network Resilience & Emergencies

LBBB relies on its highway network being resilient and capable of withstanding disruptions caused by extreme weather events such as flooding, heatwaves and ice formation. With a climate crisis, the council is to expect more frequent extreme weather events but are committed to maintaining access to local transport and services to minimise social and economic disruption. LBBB have identified the following network risks as set out in **Figure 17**.



Figure 17: Network risks

Resilience Network

LBBB Council have defined a risk-based Resilience Network, which are a group of strategic roads that should be kept open as a priority to maintain economic activity and access to key services in extreme weather conditions. The council prioritises maintenance along these routes, supporting access to key transport routes and accommodating for high HGV volumes - delivering a network that supports industrial and economic growth. These routes are also prioritised for winter gritting, as defined in the Winter Service Plan.

Alongside the resilient network LBBB have designated a selection of roads as **Traffic Sensitive Streets (TSS)**. This designation highlights that works or activities in these locations are likely to be particularly disruptive to other road users. These restrictions will minimise the impact of works on the highway through the restriction on non-emergency works at peak times and increase the resilience of the network under normal operating conditions.

Flooding

The council is a statutory consultee in the planning process on matters relating to drainage for larger development sites. The council reviews planning applications to ensure they comply with National Planning Policy Framework (NPPF), local policy and guidance, and the Mayor's London Plan, reducing surface water run-off from new developments. As part of highway asset management, a risk-based gully cleansing regime is employed to ensure that accessibility is not compromised by the risk of flooding.

Emergency Planning

LBBB's Emergency Planning team deal with all weather and civil emergencies reactively. Responses are conducted in line with strategic plans developed for various highway events, which relies on communication between LBBB Officers and Planning and Highway teams. The council uses Emergency Planning to minimise the risks of not being able to keep streets safe and accessible for all users.

Adaptation

Going forward, LBBD will continually evaluate its treatment options against the growing demands of climate change and extreme weather. The council also reviews network performance by conducting audits of responses to emergency situations which is used to make improvements. Being evidence-led and data driven gives the council measurable and actionable targets that can be used to deliver a well-maintained highway.

Winter Service

Under Section 41 1A of the Highways Act 1980, the council has a duty to ensure that “safe passage along the highway is not endangered by snow or ice” - as far as is reasonably practicable. Winter Service is of key importance in fulfilling the council’s responsibility during adverse weather conditions in the winter months.

The LBBD’s policy states that the operational Winter Maintenance Service period will run nominally from the beginning of December to the end of February. Contingency plans are in place should the service need to be commenced early or extended.

All winter maintenance activities will be undertaken aligned with guidance provided by the [National Winter Service Research Group \(NWSRG\)](#). Any amendments to the salting route network must be approved by the Service Manager for Highways and Environmental Design.

To deliver the winter service LBBD conduct preventative salting based on weather conditions. To implement this LBBD separate the network into prioritised salting routes which can be defined in 2 categories:

Primary Precautionary Salting Routes - routes derived from roads/ road sections that support bus routes or access to emergency services.

Secondary Precautionary Salting Routes - routes derived from road sections that are expected to have less functionality or importance to ensuring connectivity across the borough.

To ensure areas that are outside the salting routes are addressed, LBBD provides salt bins which the local community or those passing by can use to treat snow or ice on the highway.

Prioritising maintenance along routes that have the greatest risk to borough connectivity makes the most efficient use of funding and means that grit trucks are used optimally.

Benchmarking & Improvement



Training and Competencies

LBBB employ experienced highway inspectors with extensive experience in the highway maintenance industry. This includes former employees of other highway authorities, contractors, utility companies and consultants. The Council requires all highways inspectors to have full supervisor accreditation of the New Roads & Street-works Act 1991 and encourage their continuous professional development.

Training is important to ensure appropriate competency levels are attained and inspectors undertake training workshops with respect to risk management register, code of practice for highway inspections, changes of inspection frequencies and different defect types. Training also covers inspections under parked vehicles and mobile working.

Benchmarking with Other Authorities

As members of the London Highways Engineers Group (LoHEG), the Council contributes to the data collected and shared with the LoHEG to assess the performance of each of its member councils. This process allows the Council to share information on new innovations and collaborate to deliver maintenance activities. Understanding how LBBD performs against other boroughs with similar context and pressures allows the Council to evaluate its investment decisions and focus its policies.

The council also participates in the Annual Local Authority Road Maintenance (ALARM) and DfT transparency surveys. This allows the councils to share and compare performance with other councils, TfL and nationally and identify opportunities to adopt best practice approaches. This information is valuable to LBBD's stakeholders, as it allows them to better understand how the council is performing compared to other councils across the country, leading to greater transparency and accountability.

LoHEG gives the councils opportunities to compare approaches and share best-practice, helping build robust long-term asset management planning strategies and identifying practices that work well across London.

Improvement Plan Implementation

LBBD undertakes continuous improvement according to ISO 55000 (Asset Management) and as outlined in the Code of Practice for Well-Managed Highways (2016). LBBD will periodically conduct an Asset Management Maturity Assessment (AMMA), a form of gap analysis, to highlight disparities between the current and desired asset management practices and identify areas for improvement. An Improvement Action Plan has been set out to outline improvements to be made. These actions may enable operational efficiencies, financial savings and improved decision-making.