

2016-2021

# Highway Asset Management Strategy



Barnsley MBC

2016 2021

**BARNSLEY COUNCIL**  
**ASSET MANAGEMENT IMPLEMENTATION STRATEGY**

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## 1.0 Introduction

- 1.1 Within the Department for Transport's (DfT) guidance to local authorities on the production of their 2<sup>nd</sup> Local Transport Plan (LTP), DfT recommended that authorities develop asset management planning approaches to the management of their highway and transport assets. Asset management is fundamental to the way in which we maintain our highways in an acceptable condition now and for future generations.
- 1.2 Barnsley Metropolitan Borough Council's Policy for Managing the Highway Asset is the culmination of a review of existing service practices and looks towards future service provision. This document is intended to underpin the policy with information on how the Authority is to implement its duties.
- 1.3 Our aim is to ensure that Barnsley Metropolitan Borough Council (BMBC) is seen as a high performing Highway Authority in terms of its network condition but also understand the impact that good asset management practices and procedures can have on the holistic network improvements and efficiency agendas.
- 1.4 In the development of this strategy we have adopted the principles contained within the industry for recognized highway asset management approaches. In particular the sector –led Highways Maintenance Efficiency Programme (HMEP) sponsored and funded by the Department for Transport, has been a valuable reference for the best practice approaches adopted in this strategy.
- 1.5 The asset management strategy supports continual review and improvement of its processes and procedures, ensuring, as far as possible, that the standards identified in relevant legislation and codes of practice are adopted and that our customers receive a good and efficient service that reflects the resources available.

## 2.0 Legislative Requirements

- 2.1 The main duties of highway authorities are contained within the Highways Act 1980 and Section 41 of the Act imposes a duty to maintain those highways maintainable at public expense. This duty was amended in October 2003 such that *"In particular a highway authority are under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice"*
- 2.2 The national framework governing the highway authority's management of its network is set out in Chapter 7 of *Well-maintained Highways: Code of Practice for Highway Maintenance Management*.
- 2.3 In addition to the specific duties and powers contained in the legislation, the Code stresses that even in their absence authorities have a general duty of care to highway users and the community to maintain highways in a condition fit for purpose.
- 2.4 Section 58 provides authorities with a statutory defense if it can show that it has taken such care as was reasonably required to secure that the highway was not dangerous for traffic having regard to the character of the highway and the traffic which was reasonably to be expected to use it.
- 2.5 The Traffic Management Act 2004 introduces a number of provisions: -
  - Duty for network management
  - Permits for work on the highway

- Additional controls of utility work
- Civil enforcement of traffic offences

2.5 The duty for network management is aimed at securing the expeditious movement of traffic, including pedestrian traffic, on the network. Other relevant legislation includes: -

- New Roads and Street Works Act 1991 – duty to co-ordinate road and street works and to regulate work of utilities in the highway
- Countryside and Rights of Way Act 2000 – duty to prepare a Rights of Way Improvement Plan
- Road Traffic Regulation Act 1984 – improvement and management of traffic
- Traffic Signs and General Directions 2002
- Road Traffic Act 1988 – duty to promote road safety
- Road Traffic Reduction Act 1997
- Transport Act 2000

Environmental legislation includes: -

- Wildlife and Countryside Act 1981
- Environmental Protection Act 1990
- European Directive 2001/42/EC – requiring Strategic Environmental Assessments
- Noxious Weeds Act 1959
- Clean Neighborhoods' and Environment Act 2005

Legislative framework dealing with wider community issues impacting on the provision of highway services also include: -

- Disability discrimination Act 1995
- Criminal Justice and Public Order Act 1994
- Health and Safety at Work Act 1974
- Management of Health and Safety at Work Regulations 1992
- Construction (Design and Management) Regulations 1994
- Human Rights Act 1998
- Freedom of Information Act 2000
- Local Government Act 2000
- Civil Contingencies Act 2004

2.6 *Gross Replacement Cost and Depreciated Replacement Cost.* Whole of Government Accounts (WGA) has set requirements for the way the value of the highway asset is reported to the HM Treasury in the Authority's audited accounts. When the WGA process has been fully implemented, authorities will be required to meet the strict requirements for financial reporting of their highway asset. For this to be achieved there is clear need for accurate and detailed inventory information and performance data. This requirement will support asset management by providing an improved understanding of network deterioration and combining that with the levels of service to be achieved.

### **3.0 Planning for the Life of the Asset**

3.1 A whole-life approach to the management of the highway asset has been embraced by building on best-practice methods and aims to deliver the optimum value for money. This output based approach allows consideration of wider strategic objectives whilst factoring in local priorities. The resulting analysis seeks to ensure that our forward maintenance programme meets the needs of the council and the wider community.

- 3.2 Using an intelligence based approach to the identification and prioritisation of planned maintenance we will develop long (5+ years), medium (3 year) and short term (annual) programmes for the asset. Our prioritisation will be transparent and evidence based.
- 3.3 Life cycle plans will consider the condition of the asset and assess its future performance by applying agreed risk and investment policies. This information will be used to develop the works programmes and strategies required to achieve our service objectives.
- 3.4 We will seek to maintain a record of the entire asset, from creation to disposal which will encompass the main work activities used in the management of a highway network:
- *Operations and Maintenance*: Activities undertaken to ensure the efficient operation and serviceability of the asset.
  - *Renewal*: Provision for progressive replacement of individual assets that have reached the end of their useful life and which cannot be sustained by routine maintenance alone.
  - *Development*: Improvement of systems that currently perform below set target service standards or that need upgrading to meet future demand.
- 3.5 We will use data collected from the asset to derive appropriate maintenance interventions in accordance with the principles of whole life costs with the aim of maximising our resource to extend the life of the asset.
- 3.6 The challenge for asset management must remain as prioritising the most cost effective treatment and applying them at the correct intervals. Lifecycle plans will be developed to identify optimal treatment times for different assets including:
- Carriageways
  - Bridges
  - Other highway structures
  - Drainage
  - Traffic signals
  - Safety fencing
  - Earthworks / embankments
  - Footways / cycleways
  - Street lighting
  - Signs
  - Road markings / studs
  - Verge and landscaped areas
- 3.7 Integral to our approach is the commitment to continuous improvement in our strategy. We will engage with our peers and the wider industry to ensure we adopt developments in best practice, technologies, materials and delivery. We are committed to the continuous development and training of our staff to support our objectives.

#### **4.0 Data Gathering**

- 4.1 We survey our asset in accordance with relevant guidance and our local policies. We have further embraced the risk based approach to the asset and will consider and document amended survey regimes in accordance with this approach.
- 4.2 We aim to collect data to drive the asset management prioritisation and programming in a number of different ways as identified in table 4.1.

ASSET TYPE		SURVEY TYPE	SOURCE	DESCRIPTION	FREQUENCY	FRAMEWORK	USE	DATA TYPE	SOFTWARE
Whole Asset	Whole Asset	Asset Inventory Survey	External	Video survey of the entire asset	When necessary	Well maintained Highways Code of Practice	Asset Inventory / Horizons	Electronic	Horizons
Carriageways	Principal Road Network	SCANNER Condition Survey	External	Detailed scanned survey of road profile from moving vehicle	Annually Classified Network	UKPMS	DfT reporting, long term program development	Electronic	UKPMS / Horizons
		SCRIM Survey	External	Provides data on skid resistance values	Annually Classified Network	HD 28/04	DfT reporting, feeds into Horizons	Electronic	UKPMS / Horizons
	Non-Principal Road Network	CVI Condition Survey	External	Visual inspection	Annually 33% unclassified network	UKPMS	DfT reporting, long term program development	Electronic	UKPMS/ Horizons
	All Types	Highway Safety Inspections	Highways Inspectors	Visual inspection	Annually, quarterly and monthly	Well maintained Highways Code of Practice	Carriageway Safety Surveys	Electronic	SYMOLOGY
Footway Condition	Footway Condition	Highway Safety Inspections	Highways Inspectors	Visual inspection	Annually, monthly	Well maintained Highways Code of Practice	Footway Safety Surveys	Electronic	SYMOLOGY
Street Lighting	Electrical	Electrical Inspection	Internal	Visual and electrical tests	100% over six years	BS 7671:2008 and Electricity at Work Regulations (1989)	Safety Survey	Electronic	ASK
	Structural	Structural Inspection	Internal	Visual and data inspection	100% over six years	ILE technical report TR22 Managing a Vital Asset: Lighting Supports	Safety Survey	Electronic	ASK
Rights of Way	Rights of Way	Review the Public Rights of Way Definitive Map	Internal	Desktop exercise	Annually 10%	Rights of Way Improvement Plan	Asset Inventory	Electronic	Spreadsheet
	Bridges	PROW Bridges Inventory Survey	Internal	Visual inspection	Ongoing	Well maintained Highways Code of Practice	Asset Inventory	Electronic	Spreadsheet
Structures	Highway	Principal inspections	Internal/External	Detailed close up visual inspection	6-10years dependant on risk based analysis	BD63/07	Safety Survey	Electronic	SYMOLOGY
Structures	Highway	General inspections	Internal	Coarse visual inspection	Biannual	BD63/07	Safety Survey	Electronic	SYMOLOGY
	Rights of Way	PROW Bridge Inspections	Internal	Coarse visual inspection	Biannual	BD63/07	Safety Survey	Electronic	Spreadsheet
	Principal Road Network	CVI Survey retaining walls on Principal Network	External	Coarse visual inspection	Ongoing	Well maintained Highways Code of Practice	Safety Survey	Electronic	SYMOLOGY
Structures	Principal Road Network	Detailed inspection of retaining walls on Principal Road Network	Internal/External	Detailed close up visual inspection	Biannual	Well maintained Highways Code of Practice	Safety Survey	Electronic	SYMOLOGY
	Non-Principal Road Network	Detailed inspection of retaining walls on Unclassified Road Network	Internal/External	Detailed close up visual inspection	Biannual	Well maintained Highways Code of Practice	Safety Survey	Electronic	SYMOLOGY
	Safety Barrier	Detailed inspection of retaining walls on the Road Network	Internal/External	Detailed close up visual inspection	Biannual	Well maintained Highways Code of Practice	Safety Survey	Electronic	SYMOLOGY
Traffic Signals	Traffic Signals	Inventory Survey	External		Ongoing	Well maintained Highways Code of Practice	Asset Inventory	Electronic	COMET
Drainage		Asset Inventory Survey	Internal/External		Ongoing	Floods & Water Management Act	Asset Inventory	Electronic	GIS Database



- 4.3 We will review the way in which we collect, store and use data on an annual basis in line with our strategy of continuous improvement to achieve our outputs of efficiencies and extended asset life.
- 4.4 Our approach to highway safety inspections will be managed through the Code of Practice. We aim to develop and adopt a local code of practice for highway safety inspections which will drive the process for managing our liabilities in line with our strategic objectives. This code will seek to adopt where possible a risk based approach to categorisation of defect types and we will work with our insurers to agree our identification strategy.
- 4.5 We would also seek where appropriate to use routine maintenance activities to provide intelligence data to drive efficiencies. The collected data will then be used to apply a risk based approach to future maintenance schedules to ensure we maximise or effectiveness and drive efficiencies.

## **5.0 Asset Inventory**

- 5.1 The Highways Service has invested in Horizons Visualised Asset Management software which allows all types of data to be integrated, visualised and utilised in analysis, letting us harness what was once disparate data and utilising it to inform decisions. The Horizons software will analyse the data provided through the survey regimes by adopting a whole-life approach to each asset type (excluding structures).
- 5.2 In 2014 a video survey was commissioned to record the whole highway asset, data has been extracted from this survey and will populate the Council's inventory database Horizons. Each asset will be assigned an asset tag and this will be used to store data specific to that asset. This will include construction as build information and any completed health and safety files. Ultimately we will seek to record asset details in accordance with BIM requirements to assist maintenance supplies and ordering.
- 5.3 The small proportion of the asset currently stored on the GIS database will be migrated on to the Horizons. database to ensure consistency of data. This will ensure that our asset inventory is fully integrated for ease of use, consistency of information and accuracy.
- 5.4 Ultimately the asset will be accessible through a map based system, where defects can be uploaded onto the mapping system in real time. This would lead to increased accuracy of data held on the database and may lead to improvements in the service offered to the customer in the visibility of fault reporting.
- 5.5 The exception to an integrated asset database is the current approach for managing the Urban Traffic Control system. This specialist operation is fully managed and maintained through a bespoke contract. The UTC system within the Borough is recognised as a regional exemplar. The mechanism for maintaining this asset has been considered and at this time the current method is considered to be the most cost effective whilst providing the desired outcomes.

## **6.0 Materials**

- 6.1 Our material selection is key to ensuring the asset lifespan is optimised and that repair, renewal and replacement costs are minimised. We will plan to develop a standard pallet of materials for use on the network. This will include consideration of ease of sourcing, delivery times, supplier location and compatibility with existing stock. We will also seek to optimise our choices for the promotion sustainability.
- 6.2 The standard material list will be reviewed annually in consideration of advances in technologies, wholesale costs, changes to the supply chain and user feedback. Innovation

is encouraged and embraced but not at the expense of installing an asset which may become obsolete leaving large repair costs due to part availability.

- 6.3 We will work with our supply chain, our partners and our peers in order to share experience in material choices to optimise durability, longevity and maintainability in our material choices.
- 6.4 Our material pallet will be shared with developers to ensure that new highway infrastructure is able to meet our requirements. Where developers wish to adopt higher material standards or be innovative then commuted sums will be sought to ensure the future maintainability of the asset to be adopted.
- 6.5 We aim to develop our existing material recycling capacity and to reduce where possible all material to landfill. We will monitor our sustainable activities through annual performance indicators and seek continuous improvement in our targets.

## **7.0 Network Integrity**

- 7.1 The asset will be reviewed on an on-going basis in order to reduce street clutter and associated maintenance costs. We aim to develop a process to ensure that where works are to be completed on the highway a network integrity assessment has been carried out. This will consider any redundant street furniture, safety fencing, signage, road markings. The assessment will also give consideration to existing material choices and the costs associated with maintenance.
- 7.2 New schemes will be designed to reduce on-going maintenance liabilities and design engineers will be encouraged to work more closely with maintenance engineers to make early decisions regarding scheme details. This new approach to working aims to secure further efficiencies in operation and maintenance costs while improving internal culture for overall benefits to the service.
- 7.3 We aim to ensure that all schemes and works to change, upgrade or improve the asset will be recorded and the information will be attached to the asset tag on our inventory database. This will include BIM information where available together with any as built information, materials manufacturers, guarantees, and a parts list where relevant.

## **8.0 Customer**

- 8.1 The customer is at the heart of everything we do. Our aim is to become transparent in everything we do. We will seek to provide clear concise and easy to understand information in an accessible format to enable our customer to become better informed about our priorities and the way we work.
- 8.2 By informing our customers we hope that their expectations become more aligned to our service allowing us to achieve against our customer needs.
- 8.3 We will engage with our customers in a timely manner when completing works and provide sufficient information to allow the customer to plan their activities. This will include the publication of work programmes, information through social media, direct contact through letter drops and face to face meetings and through group meetings.
- 8.4 We will work with our partners in order to better inform and provide forward visibility of our activities on the network.
- 8.5 The service is keen to work with our customer and our partners to better meet their needs and to assist us in better understanding the customer needs we will seek to request



feedback. We plan to use social media and on line surveys to provide customers with simple and fast avenues of communication and comment. We will also look to request feedback via individual forms for frontagers and those directly affected by our site works.

- 8.6 The feedback we receive from our customer will be used to develop the service we offer and to ensure that we continually improve our relationship with our customer. We will measure our performance and seek to demonstrate continual improvement in our customer satisfaction levels.

## **9.0 Supply Chain Partners**

- 9.1 Barnsley has an in house delivery arm for our highway maintenance and highway improvement activities. The facilities available to the teams, which includes our dedicated recycling, and material treatment facility, supports the Council in achieving this strategy. We further seek to invest in our workforce to ensure they have the skills and confidence needed to embrace innovation in construction, materials and health and safety. Our aim is to grow and develop a first class team who can not only deliver our own aspirations but also a team who will be in demand externally with our partners wider customers to bring investment back into the service.

- 9.2 We aim to work with our partners and regionally to secure and use framework agreements for materials, supplies and resources. The aim is to use bulk buying power to secure reduced costs.

- 9.3 By setting our annual programmes early in the year we aim to work with our supply chain by providing forward visibility of our needs over an extended period. This will assist in the ordering of materials and resource, empowering our supply chain to ensure efficient delivery schedules.

- 9.4 Early engagement with our supply chain will also allow opportunities to work with suppliers in the introduction of alternative material and supply choices. Enabling the consideration of further cost savings.

- 9.5 Our depot storage facilities and the improved forward planning will enable costs savings through the ability to maximise seasonal rates supplies.

## **10 Programming**

- 10.1 The asset management strategy supports continual review and improvement of its processes and procedures, ensuring, as far as possible, that the standards identified in relevant legislation and codes of practice are adopted and that our customers receive a good and efficient service that reflects the resources available.

- 10.2 At the *strategic level* it is intended to develop processes and tools which allow informed budget allocation decisions to be measured across a range of criteria. This approach will consider the risks and benefits of funding individual activities. Targeted investment and informed decisions are therefore encouraged, by identifying the level of service that can be achieved for a given budget allocation.

- 10.3 At the *tactical level* a tool for carriageways will then be developed, which allows lifecycle aspirations to be considered and compared with condition targets, budget constraints and stakeholder's wishes, offering options for route and treatment strategies. Where suitable data is available this concept can, and will be implemented across other asset groups.

- 10.4 At the *local level* packages of information will then be prepared annually, allowing planned maintenance teams to formulate programmes of work based on the allocations identified in

the previous strategic and tactical decision phases. To further support and inform local needs a prioritisation system will be developed for carriageways to formulate programmes of work that relate to the high level aspirations, bringing customer focus and economic influences into the decision making process. Where suitable data is available and where appropriate this concept will be extended to encompass other asset groups. This will allow decisions to be made that consider criteria other than condition and determine programmes that are not necessarily 'worst condition first'.

- 10.5 Using these tools we aim to develop short, medium and long term programmes to cover the whole of the asset. The programmes can then be used to identify funding needs and allow a long term strategy to be considered in consideration of the Councils corporate priorities.
- 10.6 By programming works over the long term we can better feed decisions around early interventions, treatment types and seasonal activities. This will allow us to work with the supply chain to secure further savings through supplies and seasonal cost savings on materials.

## **11 Resilience**

### *Network Availability*

- 11.1 BMBC is a member of the Yorkshire Common Permit Scheme which is designed to limit the disruption road works can cause road users; we will seek to continue the reduction in the overall number of works, a reduction in total duration of occupation, and a reduction in the average duration of all works.
- 11.2 We will investigate mechanisms to encourage improvements in the quality of reinstatements on the highway network and plan to work with statutory undertakers to ensure compliance with specifications to maintain the integrity of the highway.

### *Winter*

- 11.3 Our winter service will be managed in accordance with the Winter Service Policy and Plan. We will review the plan following conclusion of each service period and look for efficiencies. We will strive for route optimization and use intelligence data from local weather stations to minimize salt usage for each run.
- 11.4 Using the storage facilities available at our two winter service depots we are able to purchase salt during off season, allowing us to secure cost savings.
- 11.5 We will measure our performance at each service event. Data will be reviewed on a monthly basis and during the end of season service review to seek further efficiencies and improvements.

### *Adverse Weather*

- 11.6 We will plan for extreme weather events in accordance with our Corporate Resilience Plans, which include severe winter weather and incidents of flooding. Staff will be trained to provide emergency response and assistance to communities affected by severe weather such as storms and flooding. Supplies are stored and distributed to residents both in advance of extreme events and during to provide support.
- 11.7 The service works closely with emergency services and other key bodies such as the Environment Agency and Highways England in order to co-ordinate a response when required.

## **12 Performance**

12.1 Our drive to see continual improvement in everything we do, it is planned to measure our performance against a number of key performance indicators. These indicators will be reviewed annually and targets adjusted to ensure that we are managing our performance and delivering on the desired outcomes. KPIs will be reported on a monthly, quarterly or annual basis as specified on each KPI.

12.2 The KPIs will measure performance against the following key areas/activities:

- Efficiently Planned and Delivered Maintenance
- Continual Improvement
- Efficient Service Delivery
- Predictability of Budgets and costs
- Health and Safety
- Environment and sustainability
- Customer satisfaction
- Managing Liabilities

### 13 References

13.1 This strategy is underpinned by task and asset specific policy, framework and guidance documents both internal and external to this Council. These documents will provide the detail on the application of this strategy and any changes and updates to these documents will automatically be incorporated into the implementation of this strategy.

13.2 The following are internal documents:

- Corporate Plan
- Corporate Resilience Plan
- Local Development Framework
- Transport Strategy
- Flood Risk Management Strategy
- Winter Service Policy
- Winter Service Strategy
- Rights of Way Improvement Plan
- Code of Practice for Highway Inspections
- Skid Resistance Policy

13.3 The following are external documents:

- UK Roads Liaison Group - Management of Highway Structures – A Code of Practice
- UK Roads Liaison Group - Well-Lit Highways – Code of Practice for Highway Lighting Management
- UK Roads Liaison Group - Well-Maintained Highways - Code of Practice for Highway Maintenance Management
- UK Roads Liaison Group - Maintaining a Vital Asset
- South Yorkshire Local Transport Plan 3
- UK Pavement Management System [www.UKPMS.com](http://www.UKPMS.com)
- CIPFA Transport Infrastructure Assets Code
- HMEP/UKRLG Highway Infrastructure Asset Management Guidance
- HMEP Toolkits and Guidance documents
- South Yorkshire residential design Guide

- 13.3 Other documents will be added to this list when they become available and once adopted. Additional internal policies and procedures will be included once developed.
- 13.4 It should be noted that for all documents listed, the latest version is in use unless specified otherwise.