

# Highway Infrastructure

Asset Management Strategy

Visualising our Highway Assets

Appendix B

# Contents

1. Document Purpose	3
2. Compliance	5
3. Strategic Communications	6
4. Asset Summary	7
5. Sustainability and Routes to Carbon Net Zero	12
6. Resilience	13
7. Risk Management	14
8. Deterioration Modelling	15
9. Strategy Reviews	16

## **1. Document Purpose**

The Council recognises the importance of highway infrastructure in the context of the wellbeing of all who use it. The Borough Council is committed to the good management of the highway asset not only for now but for future generations and recognises that asset management provides the right approach for efficient management of the network to deliver the required levels of service.

This document: Bedford Borough Council's Highway Infrastructure Asset Management - Strategy (HIAMS), sets out the high-level strategic direction that the council intends to take in several core areas of business considered to be particularly pertinent to the management of its highway infrastructure assets.

The strategy is intended to provide an overarching direction to follow and a framework of consciousness against which all our subsequent planning and decision making can be aligned. It remains both interpretative and flexible and is not intended to prescribe the complex schedules of individual activity required to be taken thereafter.

The strategy is used to set the parameters for the development and delivery of the proceeding Highways Infrastructure Asset Management -Plan (HIAMP); a series of more discreet and focussed commitments, each of which once pursued will have a direct influence on how the asset and the service is managed and maintained.

## 1.1 Background

Asset Management is the coordinated and deliberate activity of an organisation to realise value from their assets. An organisation's assets can take many forms, as can their perceived value, which might not necessarily be expressed in monetary terms.

Often assets are physical, but they could be digital, or intellectual. Essentially anything with an inherent value, whether it be latent or actual could be considered an asset.

#### 1.1.1 Highway Asset Management

Highway asset management is a well-established, and more business-like approach to the management and maintenance of the highway network that plans for investment over its whole life.

Effective and competent asset management is now considered to be an important and integral part of managing the highway network.

Accordingly, since 2016 the council's annual maintenance grant from the Department for Transport (DfT) has in part been dependent on the ability to demonstrate adoption of a robust asset management approach.

#### 1.1.2 Adopting Asset Management

A formalised asset management approach for Bedford Borough Council is almost limitless. It enables better, and more informed decisions to be made about how best to invest the limited resources available. The approach aligns the council's objectives with the expectations of our customers. Risks are able to be better and more holistically understood and managed, including not just the risk of personal loss or injury, but economic, environmental, reputational, and financial risk.

Our actions are made more transparent, and our customers can have a greater level of confidence in the decisions that ultimately affect their lives.

#### HIAMS-01

Delivering a service that is beyond merely compliant, but one which positively contributes towards, enables and facilitates the achievement of BBC's corporate priorities and the aspirations of the Local Transport Plan.



#### 1.1.3 Framework

## 2. Compliance

In the context of the overarching strategy, compliance, refers to the numerous legal requirements that the council, in its capacity as the highway authority must oblige and which in turn govern much of the way that it manages the highway network

Some notable examples include the Highways Act 1980, which sets out the main statutory obligations for the council and includes the duty to maintain the network in a safe condition. The Traffic Management Act 2004 requires the council to ensure the expeditious movement of traffic. And the Flood and Water Management Act 2010 covers the management of flood risk associated with extreme weather.

Whilst the legal framework is extensive, many of its requirements can be incidentally satisfied through adoption of generally accepted good practice guidance and recommendations from across a variety of industry publications, and in particular the 2016 Well Managed Highway Infrastructure, A Code of Practice document.

#### HIAMS-02

The default approach to managing our network and the service will be in accordance with the latest current guidance where it exists, particularly the recommendations of the Well Managed Highway Infrastructure A Code of Practice. This won't however preclude or prejudice the council in adopting a different approach as it may consider to be in the best of interests.

## **3. Strategic Communications**

As a local authority and a public body, BBC's main aim for its asset management activities; even those required of us by legal necessity, is to best meet the needs and the expectations of our customers. Our actions are rightly therefore subject to much public and political scrutiny.

The council recognises that the benefits of effective engagement are not exclusively realised through a focus on our conventional customers, but also with our wider stakeholders such as our contracting delivery partners and our extended supply chain that can be even more fruitful and mutually beneficial if carefully nurtured.

BBC has participated in the National Highway and Transport NHT survey since 2009. The survey, by Ipsos MORI, is based on a random sample of residents, designed to represent a reasonable spread of customers' views of the service across the authority. NHT data remains a vital tool in how BBC gauge's public reaction to highways condition, maintenance activities and benchmarking experiences with its peers.

#### HIAMS-03

Resources will be invested through programmes which are influenced & supported not only by engineering principles, but also by community led aspirations and decision making.

#### HIAMS-04

We will engage on a regional and national level with peer authorities and the wider industry to benchmark our service, sharing our successes and learning from those of others.

#### HIAMS-05

We will provide an open door for our customers to contact us, supporting them in helping us to shape the service and seeking their feedback on our performance.

## 4. Asset Summary

The highway network is one of legacy, much of it has evolved, rather than ever having been truly designed, and many things have changed in the way we now aspire to live our lives in the decades since most of it was constructed. BBC's network requiring prescribed maintenance activities comprises:

- 874km (543miles) of Principal, Classified and Unclassified carriageway with an estimated Gross Replacement Cost (GRC) around £3 billion.
- 91km Footways/Combined Footways & Cycleways
- 300 Highway Bridges + Culverts, Footbridges, Retaining Walls, Embankments
- 36,318 safety fences
- 20,000 Lighting Column Units & Heritage Columns + Illuminated Bollards, Illuminated Traffic Signs
- 22,000 Drainage Gullies, but an unknown quantity of underground drainage

#### 4.1 Asset Type and Groups

Before we can consider how to utilise our assets, we must first understand what those assets are, where they are, and what condition they are in.

The more comprehensive our understanding of the asset, the more effectively we will be able to satisfactorily manage, plan for and maintain it. Asset data and intelligence is therefore essential, and we must make sacrosanct the value in obtaining that information and thereafter ensuring it remains current.

Through monitoring the condition of our assets, we will better be able to identify trends in asset improvement or deterioration, prioritise and optimise our investments, and monitor and communicate the effect of our treatment strategies.

Maintenance offers a unique opportunity to make modest but important changes to the design and the fabric of the network which cumulatively can have a big impact, and which can be done often at negligible additional cost. The below table lists assets divided by type, with subordinate group type. Whilst not referenced in the list, further subordinate categorisation is possible.

Asset Type	Asset Group
Carriageways	Principal, Classified, Unclassified
Footways, Cycleways	Footways, Pedestrian Areas, Footpaths, Cycle tracks
Structures	Bridges
Highway Lighting	Lighting Columns/Units, Heritage Columns, Illuminated Bollards, Illuminated Traffic Signs
Street Furniture	Non-illuminated Traffic Signs, Safety Fences, Non-illuminated Bollards, Pedestrian Barriers, Other Fencing/Barriers, Bus Shelters, Grit Bins, Cattle Grids, Cycle parking, Trees, Verge Marker Posts
Traffic Management Systems	Traffic Signals, Zebra Crossings, Vehicle Activated Signs, Information Systems, Safety Cameras, CCTV Cameras, ANPR Cameras, Real Time Passenger Information, Automatic Traffic Counter Sites
Drainage	Gullies, Balancing Ponds, Catchpits, Counterfort Drains, Culverts, Filter Drains, Grips, Manholes, Piped Grips, Pumping Stations
Ancillary Assets	Trees, Verges, Laybys, Car Parks (Park & Ride Sites), Road Markings and Studs

#### 4.2 Inventory and Condition

Data Confidence = Green: High standard of accurate data / Amber: Medium standard. Aware of asset but not complete records held / Red: Low standard. Insufficient asset information

Asset Condition = Green: Maintenance satisfactory / Amber: Maintenance Warning / Red: Action

Asset Group	Asset Type	Quantity	Unit	Data Confidence	Asset Condition	System/Source
Carriageways	A roads	86	km	Green	Green	Insight- Gazetteer,Street
Highways	B roads	29		Green	Green	Works, GIS
	C roads	228		Green	Amber	
	Local /UC roads	527		Green	Red	
Footways	Primary	1.9	km	Green	Amber	Insight- Gazetteer,Street
Highways	Secondary	7.1		Green	Red	Works, GIS
	Link footways	30		Green	Red	
	Local Access	52		Amber	Red	
Cycleway	Cycle Lanes, Cycle	38	km	Amber	Amber	Insight- Gazetteer,Street
Highways	Tracks, shared use					Works, GIS
Structures	Bridges	241	No	Green	Green	Insight, GIS
Engineering	Culverts	unknown		Red	unknown	
	Subways	13		Green	Green	
	Petaining Walls	unknown		Amber	unknown	
		unknown		Amber	unknown	
	Embankments	4/700	N 1	<u> </u>	<u> </u>	T. 1.1
Street Lighting	Columns, Lanterns	14/90	No	Green	Green	Insight - then
Engineering	Bollards Illuminated			Green	Green	exported to GIS
	Zebra Crossings			Green	Green	
Street Furniture	Signs	unknown	No	Red	unknown	GIS
Highways	Bollards	unknown		Red	unknown	
	Street Name Plates	unknown		Red	unknown	
	Cattle Grids	unknown		Red	unknown	

Traffic	Traffic Signals	262	No	Green	Green	Imtrac,
Management <i>Transport</i>	Vehicle Activated Signs (SID) CCTV ANPR Cameras Traffic Counters Real Times Passenger Information signs	117 10 Unknown unknown unknown		Amber Red unknown unknown	Amber Amber Amber unknown unknown	Insight Imtrac Insight Drakewell, Stratostrafic. com
Drainage Highways	Gullies Pumps Ditches Grills Culverts SuDS	22,000 unknown unknown unknown unknown unknown		Amber Red Red Red Red Red	Red Amber Red Red Red Red	Insight/ GIS - GIS - GIS -
Ancillary Assets	Trees	23972	No	Green	Red	Treewise, GIS
Highways	Grass	204	На	Green	Green	GIS
	Heages, snrubs	119,353	m2	Amber	Amber	
	Reserves	20	nu	Green	Green	015
	Car Parks	19	No	Green	Green	GIS
	Road Markings and Studs	unknown	-	Red	Red	-
	Lines Yellow & White	unknown	-	Red	Red	-

#### HIAMS-06

We will treat asset data as an entity of the greatest value, basing our decisions on it, and where it does not exist, we will make plans to obtain it and keep it up to date.

#### HIAMS-07

We will treat asset data as an entity of the greatest value, basing our decisions on it, and where it does not exist, we will make plans to obtain it and keep it up to date.

#### HIAMS-08

Assets will be managed and maintained to the most optimum point to make the best use of the resources available in achieving our corporate priorities and obligations. This may be a level of service or a condition which is perceived to be lower than they are currently.

#### HIAMS-09

A preventative whole life-cycle approach to asset maintenance will be adopted; opting to give preference to well-timed and more cost-effective timely interventions rather than reacting on a 'worst first' basis.

## 5. Sustainability and Routes to Carbon Net Zero

BBC's Carbon Reduction Delivery Strategy 2020-2030 set out the following objective:

"...By 2030, the Council's own operations will be clean and efficient, and we will play a positive role enabling the wider borough to achieve netzero emissions..."

The Strategy also set out the following Key Point:

"...The Council has a corporate responsibility...to take action to reduce its own emissions..."

#### HIAMS-10

We will engage with our suppliers and be innovative to positively contribute to BBC's Carbon Reduction Delivery Strategy 2020-2030 in the aim of being net zero in all areas of the Highway Service by the year 2030.

## 6. Resilience

The success of most economic and social activity is dependent, at least in part, on the continued availability and serviceability of our national transport infrastructure. Similarly, so too is the ability of communities to resist, respond to, and recover from emergency or otherwise undesired contingent events/occurrences.

Resilience to disruptive challenges faced by that infrastructure and the services that operate it is therefore a focus of our strategy. It plays an important role in ensuring the highway network is not only able to make its own direct contribution to the council's corporate priorities, but that it can also indirectly support the actions of others in achievement of the same.

#### The council sets the following strategy

#### HIAMS-11

We will meaningfully consider the role of our highway assets and their relative importance in maintaining economic activity and access to key services.

#### HIAMS-12

Wherever practicable, we will proportionately tailor our service activities to safeguard and make more resilient those assets deemed to be most critical in maintaining economic activity and access to key services.

#### HIAMS-13

Whilst recognising the particular threat to resilience of communities and our assets by climatic conditions, we will not solely focus on these at the expense of other influencing factors.

#### HIAMS-14

We will support the growing demand in network capacity by strengthening investment in assets that support mass transport (e.g. public transport) and alternative transport networks (e.g. cycle routes).

## 7. Risk Management

The need to understand and effectively manage risk is omnipresent in managing and maintaining such an extensive, functional and in many ways vulnerable asset.

We have adopted a risk-based approach to all aspects of the highway maintenance service. In doing so, rather than considering risks as having only negative potential, we recognise that tolerating some risk in the right environment and where the circumstances allow can actually create opportunities that otherwise probably couldn't have been realised.

By being less prescriptive in our approach we can instead be more dynamic and find new ways to solve old problems and in doing breed a culture of curiosity and innovation which invites expertise into the county and allows the network to become a live test bed for new ways of working.

#### HIAMS-15

Our approach to all things will be risk based, taking account of, amongst other influencing factors, the safety and needs of different user-groups, network hierarchy and levels of use, network condition, customer expectations, and environmental impact.

## 8. Deterioration Modelling

A Deterioration Model is a mathematical model which can be used to forecast how an asset condition may decline over time, for a given set of assumptions around materials, construction method and usage. Modelling shows that regular preventative maintenance is more cost effective than reactive maintenance, over the life cycle of a given asset. Forecasting condition decline allows future works to be planned in both a more-informed fashion and earlier in the life of that asset. In-turn, this quality can also be used to underpin budget and investment planning at a strategic level, because there is greater confidence in the expected condition of any asset in future, and a judgement made as to acceptability of that condition.

Ultimately, Deterioration Models can help plan the condition of an asset over its lifecycle, as illustrated in the chart below. Some UK local

Authorities have developed their own bespoke Deterioration Models, based on empirical evidence from detail laboratory testing. However, this HIAMS recommends that BBC use the defacto standard Highways Maintenance Efficiency Programme (HMEP) products, which offer a freeof-charge.

#### HIAMS-16

Deterioration Modelling and Life Cycle Planning will be utilised utilising available HMEP transition matrices products, to plan effective preventative maintenance treatments, and reduce the incidence of costly reactive maintenance.



## 9. Strategy Reviews

This strategy shall be formally reviewed no less frequently than once every three years from the date of its formal ascent. However, interim reviews of the strategy, either wholly or in part may take place at more regular intervals if deemed necessary due to any other change in circumstance that might warrant it. Highway Infrastructure - Asset Management Strategy

## Finding out more

If you would like further copies, a large-print copy or information about us and our services, please contact us at our address below.

Për Informacion

ਜਾਣਕਾਰੀ ਲਈ

Informacja

Per Informazione

برای اطلاع

ione তথ্যের জন্য

للمعلومات

Za Informacije

 $\square$ 

### Highways and Transport

Bedford Borough Council Brunel Road Depot 30 Brunel Road Bedford MK41 9TG

@

HighwaysWeb@bedford.gov.uk



<u>www.bedford.gov.uk</u>

ENV030\_25 <u>design@bedford.gov.uk</u>