Bath & North East Somerset Council

Improving People's Lives

Highway Asset Management Plan (HAMP)

2024 to 2028

Contents

Document information

Title	Bath and North East Somerset Council – Highway Infrastructure Asset Management Plan (HIAMP) 2024 to 2028.
Author	Craig Jackson - Highway Maintenance & Drainage Manager. Igho Emeseh – VolkerHighways Ltd.
Description	This document is part of B&NES Highways Infrastructure Asset Management Plan (HIAMP) 2024-2028 suite of documents. It is a summary of all the strategic procedures used in managing our highway assets to ensure that our highway network is resilient, safe to use and fit for purpose.

Responsibility for the Plan

The officers shown below are responsible for the delivery of and updating of this document.

Council Officer	Position	Responsible for
Gary Peacock	Head of Service, Highways Delivery	Delivery of the Highway Infrastructure Asset Management Plan (HIAMP).
Craig Jackson	Highway Maintenance & Drainage Manager	Ensuring compliance with the provisions contained in this policy and updating the HIAMP documents.

Document Control

Last reviewed by: Craig Jackson

Date: May 2024 **Review Date:** May 2026

Authorised for issue by: Gary Peacock

Date: May 2024

Foreword from the Director of Place Management

At Bath and North East Somerset Council, we have one overriding purpose – to improve people's lives. This purpose brings together everything we do, from cleaning the streets to caring for our older people. It continues to be the foundation for our strategies and ensures that it drives our commitments, spending and service delivery.

This document sets out the Council's plans for the management of its highway assets for the next 5 years. A well-managed highway network helps to ensure that our assets continue to provide a safe, serviceable, and sustainable network for our customers now and in the future. Asset management enables us to make good, consistent decisions about our assets throughout their lifecycle, that best meet the needs of our customers.

The Highway Infrastructure Asset Management Plan (HIAMP), of which this Highway Management Plan is an integral part, sets out the Council's plans and commitments for the management of its highway assets for now and the near future. The high demand combined with pressures on Local Authority budgets drive the need to ensure that any money is invested as astutely as possible.

This plan also aligns with our Journey to Net Zero ambitions, a baseline transport systems plan that will be used to guide scheme and development planning, as well as delivery in the future. It targets measures that will help to significantly reduce transport-related carbon emissions and deliver a transport network that is fit for the future, ensuring that our highway hierarchy promotes sustainable travel for all.

On operational level, the local highway network consists of over 1100km of carriageways as well as cycle ways, footways, public rights of way, bridges, retaining walls, drainage, traffic signals, traffic management systems and public transport infrastructure. These assets take significant resources and knowledge to manage them effectively. We also recognise the increasing likelihood of challenges and demands that are placed upon our assets that we cannot control, such as the effect of extreme weather events with harsh winters, storms, and flooding becoming more common.

In light of the challenges, I am pleased to support the Highway Asset Management Plan.

Chris Major

Director of Place Management

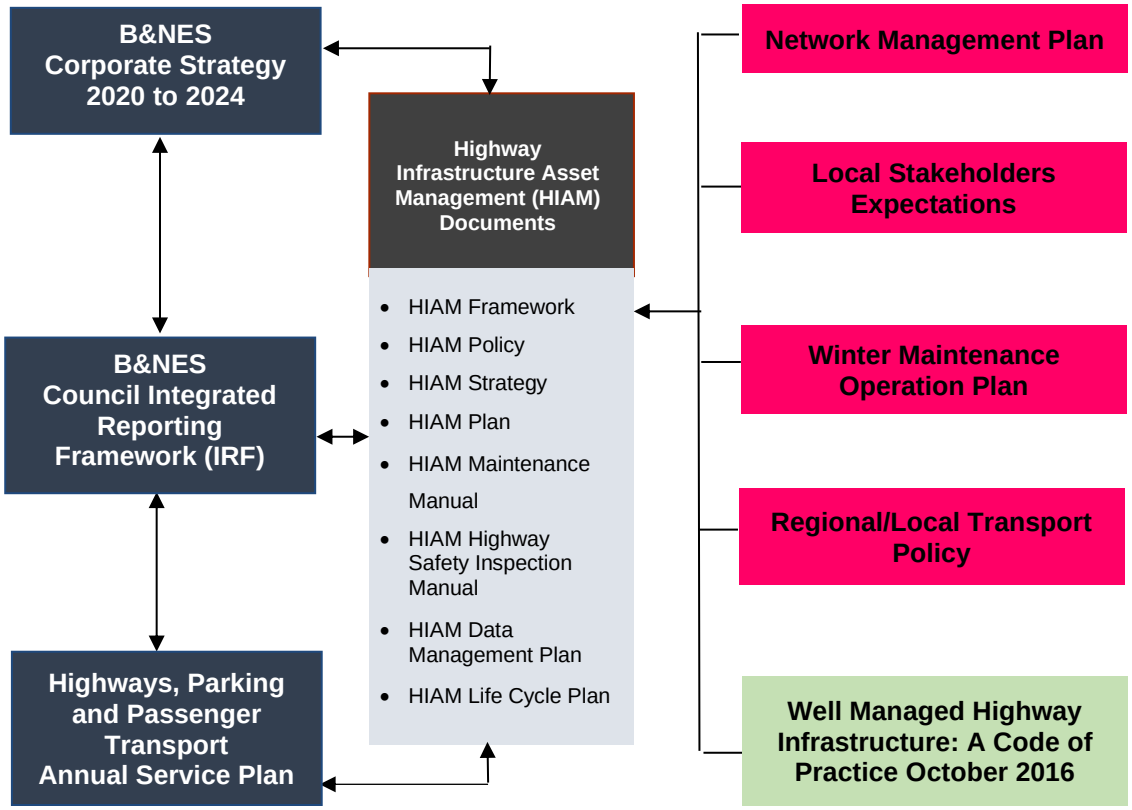
1. Introduction

This Highway Asset Management Plan (HAMP) is one of the suite of documents that make up the Council's highway infrastructure asset management plan (HIAMP). These documents are closely aligned with the Council's core objectives and conform to the recommendations contained in the United Kingdom's Roads Liaison Group (UKRLG) Code of Practice "Well-managed Highway Infrastructure", the best practices in the Department for Transports (DfT) Highway Maintenance Efficiency Programme (HMEP) guidance document "Highway Infrastructure Asset Management", International asset management models, such as the Institute of Asset Management's PAS 55 specification published in 2008 and ISO 55000.

The HIAMP suite of documents contains the strategic processes involved in the management and maintenance of all highway infrastructure assets through long-term planning and the best allocation of resources in managing risk and meeting the statutory/performance requirements of the authority most efficiently and sustainably.

The figures below show the relationship between the Highway Infrastructure Asset Management Plan (HIAMP) and other Council Plans and Strategies.

Fig 1. Relationship of the Highway Infrastructure Asset Management Plan (HIAM Plan) with other Council Plans and Strategies. Full description in Appendix.



2. Purpose

This plan sets out the Council's strategic plans on how it intends to maintain the highway assets for the period 2024 to 2029. Its purpose is to:

(i) Define service standards that users of the local highway network can expect within our highway boundary.

(ii) Highlight some of the strategies and processes that are used in the management and maintenance of the highway assets to achieve these standards.

The service standards, targets and projected budgetary expenditure contained within this HIAMP will be continually monitored and a report produced each year to highlight the budget spend and the current condition of each asset. This report will be provided to senior management and cabinet members along with any recommended changes to the plan.

This Highway Management Plan is part of a suite of documents that support the Council's approach to managing the highway network using effective highway asset management principles. Other asset management planning documents in the suite include:

- Asset Management Framework
- Asset Management Policy/Strategy
- Data Management Plan / Strategy
- Life Cycle Planning
- Works Programmes
- Annual Status Reports
- Maintenance and Performance Manual
- Safety and Inspection Manual

3. Highway Assets

The highway asset is made up of **Carriageways, Footways & Cycleways, Street Lighting, Highway Structures, Public Rights of Way (PROW), Flooding & Drainage.**

The council's highway assets covered by this plan are:

- 1,102 km carriageways
- 885 km of Footways & Cycleways
- 39.1km off-road Cycleways/shared paths & permissive paths
- Approx. 35,600 drainage gullies, chambers, soakaways and outfall
- 320 bridges and culverts
- 123 Footbridges
- 2 Subways
- 576 retaining walls
- 16,320 streetlights
- 2,682 Illuminated signs and bollards
- 702 Feeder Pillars
- 44 Traffic Signals Junctions
- 74 Signalised Pedestrian Crossings
- 16 Variable Message Signs
- 953 km Public Rights of Way (PRoW)
- 4,266 PROW Furniture (Bridges, Signposts, Waymark, Boardwalks, Steps, Stepping Stones, Stiles, Handrails/safety barriers) and Structures

Further inventory details of these assets are contained in B&NES Highway Maintenance Manual.

3.1 Exclusions

The plan does not cover bus stops, private roads and bridges, Council owned bridges not on or crossing the highway network and decorative seasonal lighting.

3.2 Data

The asset data contained in this plan are obtained based on surveys and inventory of the network. However, where there are gaps in the inventory data, sample surveys and local estimates have been used to include them within this plan. We are continually improving the inventory data, and a Data Improvement Plan has been produced as part of the HAMP strategy to ensure that future reports are based on better information.

3.3 Customer Expectations & Stakeholders Demands

This plan has been produced based upon a review of customer feedback and expectations as well as results from stakeholders' engagement.

3.4 Customer Contacts and Request for Service.

Customer contacts (including enquiries and request for service) in relation to the highway assets are recorded in the Council's "Fix My Street (FMS)", "Report It" or the "Council Connect" system. A summary of the contacts received by category in the last five years is shown below:

Inquires & request for Services received

Asset Group	2019	2020	2021	2022	2023
Drainage & Flooding	1037	1444	1202	1057	1522
Highway Maintenance	4653	4858	5722	5602	7441
Street Lighting	1552	1160	1208	977	982
Traffic Signals	N/A	N/A	3	2	18

3.5 Asset Growth

New assets are continuing to be added to the network each year through:

- Adoption of additional roads into the network
- Improvement activities such as traffic safety schemes and construction of new road links

The Council use capital expenditure to fund improvement and new assets on the network while revenue expenditure is used to maintain the assets.

The additional assets create the need for maintenance, management and associated funding in future years as they age thereby putting pressure on the revenue budget. In addition, inflation within the construction sector continues to impact service delivery by decreasing the buying power and the amount of work that can be completed on the key asset groups. All these have resulted in the continued deterioration of the overall condition of the highway assets as illustrated in the tables and charts in the life cycle plan.

3.6 Weather/Climate Change

This plan assumes average winter and mild weather conditions. If an unseasonably harsh winter or extreme weather event is experienced, it can be expected that additional damage to the highway assets will occur, and the Council will require additional resources and funding to repair these damages. It is forecast that climate change may result in more extremes weather conditions, **this will continue to be assessed and action agreed as part of this plan.**

3.7 Flooding

Some areas are prone to flooding which can damage the road and other highway assets. The Service operates an emergency severe weather protocol that is activated ahead of forecast severe weather events. This enables a co-ordinated cross Council and Partners approach for checking and clearing highway drainage structure ahead of the storm event and ensures resources are on standby to attend emergencies. When flood events occur, resources are deployed to respond. In extreme situations this may involve clearing land slips or repairing part of roads eroded by flood waters. Such events if they occur may impinge upon the ability to meet the targets in this plan unless additional resources (and funding) are made available.

4. Service Standards and Strategies for Maintaining the Highway Assets

4.1 Service Standards

The Council has a statutory duty to maintain the highway so that it is safe for use and fit for purpose. Service standards refer to defined realistic and achievable standards aligned with customers' expectations.

To define what users can expect, our service standards have been set with reference to two main areas: (i) Safety and (ii) Condition.

(i) Safety (ensuring the safety of all road users)

- The number of incidents/defects requiring an immediate (2hr) response
- The number of "safety" defects requiring a (24hr) response

(ii) Condition of the assets

- The percentage of the asset in a "poor" condition
- The percentage of the asset that should be "considered for maintenance"
- The number of maintenance defects requiring a 7-day response

Inspection and reactive repair standards are set out in the Council's Highway Safety Inspection Manual and Highway Maintenance Manual. This plan assumes those standards will be consistently met.

The specific standards that users can expect from each highway asset group during the plan period are shown in the sections below.

4.2 Strategies

Strategies will be applied to achieve the target standards. The strategy for each asset group is given in the section below. The strategies include predictions of the types and quantities of works required to deliver the service standards. The strategies involve prioritising repair or replacement of elements of each asset in a manner designed to achieve the standard at the best possible short and long-term cost.

4.3 Works Programmes

The strategies will be used to create programmes of works. Lists of potential works are maintained for each asset based on the results of inspection and condition surveys. These lists are used to derive works programmes which are published annually.

4.4 Funding Assumptions

The standards included in the plan are based upon levels of funding that are indicated. These are based on current funding levels.

4.5 Carriageways

The strategy for carriageways comprises of maintaining current investment in resurfacing and surface treatment combined with the continued repair of minor defects and emergency response.

4.6 Standards

(i) Safety

Repair of Safety Defects (2022/23 figures)	Standard	Compliance	Quantity (2022/23)
* Critical defects shall be rectified or made safe within	2 hours	100%	247
* Safety defects shall be rectified or made safe within	24 hours	100%	292

** Definitions of critical and safety defects are given in the maintenance manual.*

(ii) Condition

Repair of Maintenance Defects (2022/23 figures)	Standard	Compliance	Quantity
Maintenance defects (high priority) shall be rectified within	28 Days	N/A	3626

Measured Condition (2022 Survey figures) by Road Class (A, B, C, U)

Measured Condition (2022 Survey figures)	Red or Amber	A	B	C	U
Percentage in poor (red) condition shall be kept at or below:	Red	5%	7.5 %	19%	25%
Percentage that should be “considered for maintenance” (red plus amber condition) shall be kept at or below:	Amber and Red	59%	69%	79%	74%

4.7 Strategies

4.7.1 Repair of Defects

Defects such as potholes and the like are identified by a regime of safety inspection or notified to the council by users. Defects are assessed based upon the risk they pose to users and repairs are prioritised in accordance with the council’s maintenance manual and policy.

- Routine and reactive repairs are expected to continue at current levels throughout the period of this plan, funding levels will need to increase due to continued decline of assets and impact of inflationary pressures.
- This plan assumes that VolkerHighways ltd (our highway term maintenance contractor) currently deployed to repair defects will continue to do so and that the quantities of repair required will be broadly similar to those experienced in recent years.

4.7.2 Resurfacing and Surface Treatment

To keep defects at a manageable level, lengths of road require resurfacing or surface treatment. Treatment is required when their condition deteriorates to the point where defects are occurring. The extent of this is reflected in the condition targets shown previously.

The strategy for carriageways is based on the 2022/23 funding levels for the next 10 years. This will result in the road condition after the 10-year period indicating a small improvement in condition.

4.7.3 Annual Works Programme

A rolling programme is maintained of all roads where maintenance should be considered. A prioritisation process documented in the council's highway maintenance manual is used to create an annual programme of work that is approved by council and published.

The prioritisation process ensures that the strategy is implemented and that there is a documented method for choosing which schemes get completed first.

4.7.4 Funding Assumptions

The works quantities detailed in the annual works programme have been estimated based upon the following anticipated funding levels shown below:

Works Type	**Annual Funding Required (2022/23 figures)
Capital (Planned)	£5.34 m
Revenue (Routine & Reactive) **	£3.5m

** *These figures are for both carriageway and footway*

5. Footways

The strategy for footways comprises increased investment in resurfacing combined with the continued repair of minor defects.

5.1 Standards

(i) Safety (See carriageway data)

Repair of Safety Defects (2022/23 figures)	Standard	Compliance	Quantity (2022/23)
* Critical defects shall be rectified or made safe within	2 hours	100%	247
* Safety defects shall be rectified or made safe within	24 hours	100%	292

(ii) Condition

Repair of Maintenance Defects (2022/23 figures)	Standard	Compliance	Quantity
Maintenance defects (high priority) shall be rectified within	28 Days	N/A	3626

Measured Condition (2022/23 figures)	Red or Amber	Percent
*Percentage in a poor (red) condition shall be kept at or below:	Red	35%*
* Percentage that should be “considered for maintenance” (red plus amber condition) shall be kept below:	Amber and Red	55%*

**These figures are based on 25% of the network surveyed in 2022. Gaps in information has been identified in data management plan*

5.2 Strategies

The strategy for footways is to increase funding to a level to maintain a 10-year steady state condition based on the assumed 2023/24 footways condition. Additional funding through grant funding will be sought to improve the condition of footways further.

5.2.1 Works

The strategy above is expected to require the following amounts of works to be undertaken.

Routine and Reactive Repair

A rolling programme is maintained of all footways where maintenance should be considered. A prioritisation process documented in the council's highway maintenance manual is used to create an annual programme of work that is approved by council and published.

The prioritisation process ensures that the strategy is implemented and that there is a documented method for choosing which schemes get completed first.

Funding Assumptions

In order to undertake the amounts of works detailed the following amounts of estimated funding will be required annually.

Works Type	Annual Funding Required
Capital (Planned)	£975,000
Revenue (Routine & Reactive)	Included in carriageways

6. Street Lighting

The strategy for street lighting comprises of completing the upgrading of all lanterns to energy efficient LED lamps along with a programme of replacement of columns and cables.

Standards

Safety – Target Standards

Repair of safety defects	Standard	Compliance
Critical defects shall be rectified or made safe within	2 hours	100%

Condition – Target Standards

Repair of maintenance defects	Standard	Compliance
Maintenance defects (high priority- multiple outage) shall be rectified within	24 hours	100%
Maintenance defects (low priority – single outage) shall be rectified within	7 Days	85%

Measured Condition	Red or Amber	Standard
Percentage in a poor condition; the percentage of street lighting columns testing results requiring instant removal or retesting in one year shall be kept below	Red	20%
Percentage that should be "considered for maintenance"; percentage of street lighting columns testing results requiring retesting within three years shall be kept below	Amber	55%

Strategies

- The Council has undertaken an Energy Reduction Plan which is 90% complete for the replacement of lanterns to low energy LED units. This has resulted in a 63% reduction of annual energy use and is expected to lead to a 50% reduction in the number of lantern faults.
- The lighting column structural testing programme is enabling columns in poor condition to be identified and replaced prior to failure. Funding level will need to increase to support the number of column replacement programme.
- Columns identified for a 3 or 6-year retest will be retested and actioned as per the results.
- LED replacement programme will need to commence by 2026.

Works

The strategy detailed above is expected to require the following amounts of works to be undertaken.

LED Lantern Replacement

Replace remaining existing heritage non-LED lamps with LED lanterns in 2024/25, thereafter replace upon failure for 2024/25, while a stage LED replacement programme is developed to ensure timely replacement within the 15-year life expiry of the lanterns.

Planned Maintenance

Column Renewals

	2022/23	2023/24	2024/25	2025/26	2026/27
Columns Renewals (Nos)	236	236	264	264	264

7. Highway Structures

The strategy for highway structure comprises of the targeted refurbishment of structures in very poor or poor condition combined with a regime of routine maintenance designed to prevent other structures from deteriorating into a poor condition.

Standards

Safety - Target Standards

Measured By	Standard	Compliance
Critical defects shall be made safe within	2 hours	100%

Condition

	Red or Amber	Standard
Percentage in a poor condition; the percentage of structures with a BCI of very poor kept below:	Red	Update March 2025
Percentage that should be "considered for maintenance"; the percentage of structures with a BCI of poor kept below:	Amber	Update March 2025

Strategies

- Works are identified through Principal Inspection.
- The Council has identified and have a list of structures that require:
  - strengthening
  - in a very poor condition that require major refurbishment works and
  - structures in a poor condition that require refurbishment works
- The strategy developed is to target addressing the works required on all these over a 5-year period.
- Works on those structures considered to be a high priority will be carried out first.
- Routine maintenance needs are different for each structure type. These have been identified and estimated average amounts of annual work have been used to identify the works and funding requirement.

Works

The strategy detailed above is expected to require the following works to be required.

Routine and Reactive Repair

The strategy requires the deployment of work gangs on routine and reactive repairs and emergency make safe response.

Funding Assumptions

In order to undertake the amounts of works detailed the following amounts of estimated funding will be required annually.

8. Traffic Signals

(i) Safety

Contract Performance Indicators	Target
Equipment Contractor Availability	**98.90%**
Site Minimum Availability (Strategic Sites)	**92.00%**
Site Minimum Availability (Non-Strategic Sites)	**84.00%**
Direction Fault	Attended and AMS updated within 2.5 hours of notification
Emergency Fault	Attended and AMS updated within 2.5 hours of notification

(ii) Condition

Current 2023 Asset Age

	0 to 5 Years	6 to 10 Years	11 to 14 Years	15 to 19 Years	20+ Years
Number of Traffic Signal Sites	**20**	**38**	**21**	**17**	**22**
Percentage of Asset Base	**17%**	**32%**	**18%**	**14%**	**19%**

Total Number of Traffic Signal Sites: 118

Current Site Condition Ratings 2023.

	Good - Continue Monitoring	Average - Requests Replacement Programming	Poor - Replace Urgently
Number of Traffic Signal Sites	**73**	**30**	**15**
Percentage of Asset Base	**62%**	**25%**	**13%**

Total Number of Traffic Signal Sites: 118

Strategies

The strategy for Traffic Signals is increased investment to a level to maintain a 10-year steady state condition based on the current 2023 asset condition. Life cycling modelling has forecast that at present funding levels 30 sites (25%) will exceed the 15 years life and of these 51 sites (43%) will be over 20+ years.

A combination of investment will be sought to increase the maintenance funding for the traffic signals:

- Through the City Region Sustainable Transport Settlement signals will be upgraded.
- Additional grant funding secured through bids.
- Use of commuted sums.
- Increase in revenue funding.

The investment strategy will be reviewed in 2 years when there will be clarity on the extent of the CRSTS investment.

Annual Works Programme

A rolling programme is maintained for Traffic signals where maintenance should be considered. This will need to be expanded to maintain steady state as detailed in the life cycling modelling. A prioritisation process is used to create identify highest priority sites.

The prioritisation process ensures that the strategy is implemented and that there is a documented method for choosing which schemes get completed first.

Funding Assumptions

The annual works programme will be informed by CRSTS and grant funding and will need to increase from current levels of £200k per annum by a further £100k plus CRSTS and grant funding.

9. Appendix

Further reading

The following documents provide further information that have helped guide the Asset Management Plan.

- Carriageway Lifecycle Analysis Report
- Footway Lifecycle Analysis Report
- Street Lighting Lifecycle Analysis Report

Description of flow chart

A flow chart showing what plans, policies and other considerations go into making the Highway Infrastructure Asset Management Documents, and what these documents then contribute to;

Network Management Plan, Local Stakeholders Expectations, Winter Maintenance Operation Plan, Regional/Local Transport Policy and Well Managed Highway, Infrastructure: A Code of Practice October 2016 all feed into the Highway Infrastructure Asset Management (HAM) Documents which are listed as HIAM Framework, Policy, Strategy, Plan, Maintenance Manual, Highway Safety Inspection Manual, Data Management Plan and Life Cycle Plan. These then lead to the B&NES Corporate Strategy, the Council Integrated Reporting Framework (IRF) and the Highways, Parking and Passenger Transport Annual Service Plan. Each of these are also linked to each other.