

Highway Asset Management Policy

Revision 2020

Directorate: Place



Executive summary

A good Highway network is essential for a successful economy and society. It provides access to jobs, services and schools, gets goods to the shops and allows us to make the most of our free time. In North Somerset the gross replacement cost of the highway asset has been estimated to be over £2.4 billion.

We have one of the lowest highway spends in the country, yet surveys show our carriageway condition is good compared to other authorities. This position has been achieved by revising our approach to highways maintenance to maximise value:

- Moving from reactive to proactive work
- Continuing to move away from “worst first” towards a “whole life” approach

The asset management whole life approach we already use has had the same effect as an additional £2.6m investment compared to using the worst first approach since 2013/14.

Our changed approach was validated by the May 2011 Audit Commission report “[Going the Distance](#)”, the Highways Management Efficiency Programme report in April 2012 “[Prevention and a Better Cure](#)” and the May 2013 Highways Management Efficiency Programme document “[Highway Infrastructure Asset Management Guidance](#)”.

At North Somerset Council part of the vision is for this to be, “a thriving and sustainable place” with, “Welcoming, safe, and clean neighbourhoods”. Effective highway maintenance is key to achieving the vision and the way we do that also needs to acknowledge the aim of having, “A transport network which promotes active, accessible and low carbon travel”.

The Transport and Infrastructure service have identified our overall purpose as “*To effectively plan, manage and enhance North Somerset’s infrastructure to support growth and create great places to live, work and visit.*” In a wide-ranging service, asset management is at the core.

To support this priority we aim to proactively manage our highway assets in a safe, efficient and sustainable way. We will deliver a service which treats all road users in a consistent, fair and transparent manner in accordance with published strategies and plans. **Our key objective is to *arrest the deterioration of the A and B road network whilst implementing an asset management approach.***

This in turn is supported by our [Joint Local Transport Plan](#) which sets out the need to “*Develop and improve network resilience through an ongoing commitment to highway maintenance*”.

Introduction

The highway network is almost certainly the most valuable asset managed by any local authority, and the asset used most extensively by the whole community. The replacement cost of our highway asset has been estimated at over £2.4 billion (This is to completely replace rather than repair the existing highway asset).

A good transport network is essential for a successful economy and society. It provides access to jobs, services and schools, gets goods to the shops and allows us to make the most of our free time. Local roads (All of the A, B, C and unclassified roads that are maintained by local authorities which does not include motorways or trunk roads)¹ are the primary element of the transport network and play a key role in delivering the services people want and need. The total length of local network that North Somerset Council maintains is 1111km (this is the carriageway length), the length of maintained footways is 1027km). Cycleways and footways are also key to supporting the aim of becoming a carbon neutral council and area by 2030. In order to fulfil its potential, it is crucial that our local highway network, including footways and cycleways, is adequately maintained.

Continuing growth in traffic and its attendant problems has brought an increasingly widespread recognition of the importance of highway maintenance and the high value placed on it both by users and the wider community. Conversely, public concern is increasing about the failure to invest adequately and effectively in highway maintenance and the implications for safety and journey reliability and this is exacerbated by ongoing budget reduction.

Current status

We have one of the lowest highway spends in the country, yet condition surveys indicate our carriageway condition is good compared to other West of England authorities and authorities nationally. We have achieved this position by revising our approach to highways maintenance to maximise value:

¹ This is in contrast to:-

- The Strategic Road Network (SRN) which is made up of motorways and trunk roads (the most significant 'A' roads) and are administered by [Highways England](#)
- The Major Road Network (MRN) - a proposed classification of local authority roads in England. This would incorporate the existing [Highways England](#)-controlled [Strategic Road Network](#) (SRN) and the more major [local authority](#) controlled [A roads](#).

- moving from reactive to proactive work, spending money on preventative repairs rather than repairing assets when they have reached the end of their life
- continuing to move away from a “worst first” towards a “whole life” approach

Our approach has been validated by the May 2011 Audit Commission report “[Going the Distance](#)”, the Highways Management Efficiency Programme report in April 2012 “[Prevention and a Better Cure](#)” and the May 2013 Highways Management Efficiency Programme document “[Highway Infrastructure Asset Management Guidance](#)”.

Despite this good work, above average expectations from residents in North Somerset have meant that satisfaction rates recorded by the NHT surveys have been historically low but have improved considerably in recent years. In 2020 our overall satisfaction rating was just below the national average and had improved since 2019². We currently spend £9,273 per kilometre on highway maintenance³ which is well below average for an authority of our size and profile⁴. This figure includes reactive and planned repairs.

Background

Policy

North Somerset Council recognises that a good transport network is essential for an attractive and vibrant place for business investment and sustainable growth. Our roads, cycleways and footways are a key element of this network and provide access for local residents and businesses, and visitors to jobs, services, schools and shops. Well maintained roads, cycleways and footways are important for all users including private and public transport, pedestrians and cyclists.

Our [Joint Local Transport Plan](#) sets out the need to, “*Develop and improve network resilience through an ongoing commitment to highway maintenance*” taking into account the impact of climate change. The plan also says that we will, “*Continue our firm commitment to maintain the network to the best standard possible, in light of increasingly constrained budgets for highway maintenance. This includes the ‘whole-life’ approach where we identify and repair roads before they are visibly damaged on the surface, wherever there is a financial or a maintenance benefit to do so.*”

² **2020 NHT Survey Executive Highlights Report: Key Benchmark Indicator 00 - Overall Satisfaction.** North Somerset scored 50% and the National average was 52%. This represents an improvement of 4% since 2019.

³ From our most recent APSE submission based on 2019-20 data

⁴ From our APSE 2019-20 DMG PIG Report

The JLTP4 also retains a commitment to maintain, manage and ensure best use of transport assets through a Joint Transport Asset Management Plan (JTAMP)

In 2008 we joined with Bristol City (BCC), South Gloucestershire (SGC) and Bath and North East Somerset (BaNES) Council's to create a JTAMP. This built on our previous relationships creating a Joint LTP and sharing resources with BaNES when re-issuing the term maintenance contract.

The JTAMP team produced the last revision in [December 2011](#). Since the formation of the West of England Combined Authority we continue to work together to deliver transport investment through the JTAMP and the JLTP4.

South West Highways Alliance

We regularly work with colleagues across the south west via a group setup to share best practice and innovation and also to communicate with the Department for Transport about funding needs and other issues.

Investment strategy

We use lifecycle modelling based on condition survey data to quantify the funding needed to achieve a variety of outcomes: from managed decline to reducing the backlog within a year. In 2019/20 we re-based this work to take account of inflation and new contract rates, the headlines from this showed that:

- to maintain a steady state of network condition will require annual funding of approximately £9.8m, a £3.6m increase over 2015/16 levels
- the current backlog is approximately £39.9m. This is how much it would cost to fix all the roads in need of repair within one year.
- current funding levels will see a significant decline in measured condition of C and U roads over 5 years

Using this information we recognise that aiming to reduce the backlog remains unrealistic, so we set the objective to *arrest the deterioration of the network on A and B roads and slow down the deterioration of C and U roads* and continue our strategy to achieve this objective. While developing this strategy we identified that the asset management principles of early intervention and a whole life approach were critical in achieving this.

We developed the original investment strategy during 2012/13, this built on the work already done to justify targeted investment into the network. The efficiency savings as a result of the whole life approach are assessed each year which reflect real improvements that have been made without loss of quality or that result in higher quality for the same spend. In 2019/20 the efficiency savings were £186,000, adding to the cumulative total efficiency savings since 2013/14 of £2.6m⁵. This means the strategy to adopt an asset management whole life approach has had the same effect as an additional £2.6m investment since 2013/14 compared to the worst first approach that we previously used.

Looking ahead, we need to build on the success of our asset management approach which means not necessarily fixing the worst roads first but instead extending the life of roads that appear in good condition but need sealing to avoid a more rapid deterioration. This can sometimes be a difficult message but it does mean that we maximise value for money.

Since 2013 we have worked to increase understanding and acceptance of the investment strategy and the asset management approach throughout the council. Moving away from a worst first approach can be counterintuitive, but we received good support from Senior Managers and Local Members. Further work is now needed to engage with new members and then build further on improving public understanding.

In 2021 the Council has further demonstrated its support of an asset management approach to highway maintenance by extending its planned capital expenditure in the MTFP by £1.25M for a further year.

Network Hierarchy

A network hierarchy identifies the relative importance of all roads based on a range of factors including traffic levels and the role they play in the network, for example bus routes, popular cycle routes, access to schools or other key infrastructure. Previously our network was only broken down into A, B, C class and unclassified with the only other distinction being those roads which are part of the Primary Route Network and those which are not. This was reviewed to increase the number of levels within the hierarchy to allow systematic prioritisation within and between each class. This is particularly useful with c-class and unclassified roads where some quiet

⁵ NHT National Highways & Transport Network 2020 CQC Annual Report

rural c-class roads are seen as requiring less priority than other busy urban unclassified roads. It enables c-class routes with a functional importance to be given more priority than less significant routes. This new hierarchy was introduced during 2015 and will be developed further to support active travel routes in line with the new Corporate Plan. The network hierarchy will play a pivotal role in our migration to the new highway maintenance Code of Practice which advocates a risk-based approach.

Corporate Plan

North Somerset believes that an effective asset management strategy is core to making the best use of its highway maintenance budget and help deliver the best long-term outcomes for its local communities by contributing to the delivery of the aims in the corporate plan:-

- A thriving and sustainable place
- A council which empowers and cares about people
- An open and enabling organisation

These aims link to key shared priorities in North Somerset Partnership's Sustainable Community Strategy.

The Council's Asset Management Strategy will seek to:-

Make this a great place for people to live, work and visit

We aspire to all our residents being satisfied with their local area and having access to a full range of essential facilities and services. A comprehensive asset management strategy will allow us to continue to understand the needs of our communities and maintain our roads in a cost-effective manner whilst maintaining an affordable council tax.

Make an attractive place for business investment and sustainable growth

North Somerset considers that a comprehensive transport network is essential to support economic vitality and thereby increase employment in the area. It allows businesses to thrive encouraging further investment and contributes to North Somerset being a place where people want to live or visit. We will identify the need for new infrastructure to achieve this and our asset management strategy is essential to help make well-informed, long-term, sustainable decisions for an effectively maintained highway network.

Make welcoming, safe and clean neighbourhoods

An effective asset management strategy will support our road safety programme and help reduce the number of road traffic accidents. A well-maintained highway network will assist vulnerable users accessing services and encourage residents to walk and cycle more, leading to healthier living.

Be a carbon neutral council by 2030 & have a transport network which promotes active, accessible and low carbon travel

North Somerset recognises the need to minimise waste and reduce the amount of material taken to landfill. An asset management strategy will help achieve this by making the most appropriate and sustainable intervention at the right time and making the most efficient use of our assets. Maintaining our highways in a more effective manner will make the best use of constrained budgets and will support the use of more sustainable forms of transport, such as walking, cycling and public transport. Options for more sustainable methods and materials will be sought and opportunities for recycling materials maximised.

Approach

To deliver the asset management approach we have developed an asset management strategy to document our existing good practice and provide a structure for areas where we need to improve.

Carriageway condition surveys

Highway authorities are required to carry out condition surveys on the classified network at set frequencies. We have taken the decision to increase the required frequency such that every A, B or C road is surveyed every year with directions reversed on alternate years to ensure no data is greater than two years old.

We have taken a further step to, where possible, carry out mechanised surveys on all carriageways that are part of the adopted highway so that each unclassified road is surveyed in at least one direction at least every other year. Where it is not practical to undertake these surveys using SCANNER or MRM, visual surveys are used; this is currently only on 20% of the network and we are trying to reduce this further.

The decision has been made to move away from visual surveys towards mechanised surveys to maximise consistency and repeatability. With slightly lower costs there is also efficiency in using mechanised surveys. Working with other southwest highway authorities we have developed a weighting set for this revised approach (see section 3.2). This weighting set is used to produce plots of the network condition based on condition survey data.

Scheme identification

Following the asset management approach we have moved away from worst first scheme selection and now use a more refined approach. While the initial phase does indeed look for sections which are above a threshold condition (higher score = worse condition), this threshold is now set much lower than previously, generating a much larger number of potential schemes to include those for early intervention.

Each potential scheme is automatically given a suggested maintenance treatment based on the survey data; we then verify this through site investigation and make changes where necessary. Having verified the maintenance treatment we add budget estimates and are ready to prioritise the list.

Scheme prioritisation

Our prioritisation uses a variety of factors, and the range of data sources used will be increased to take account of further factors such as corporate priorities identified by the Executive, customer feedback, recent maintenance costs and rate of deterioration.

At present our prioritisation looks at:

- The extent of the road which is at or below a threshold condition. This increases the priority of schemes which have a greater proportion in poor condition and is the historic worst first approach.
 - The range of condition within an identified scheme. This adds weight for schemes which aren't below the threshold condition, but which are nearing this condition.
 - The breakdown of the condition, looking at rutting, cracking, longitudinal profile and texture individually. The weighting attributed to each measure is different on different road classifications and is varied to match our service objectives.
 - On A and B Roads the skid resistance as measured by SCRIM surveys. This introduces a measure to prioritise schemes which have safety defects. We cannot use this weighting on other roads as we do not collect the data.
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- A calculated benefit cost ratio. This includes scheme costs and life expectancy in a manner which will prioritise low cost intervention over high cost intervention and long-life intervention over short life intervention.
- Balancing priorities across different road classes

Our prioritisation weighting sets are not static and will be refined through use to maximise effectiveness and value for money. Further refinements will also be made as the hierarchy project is implemented.

Scheme selection

Having prioritised the list we select schemes for the three-year programme based on that prioritisation. However, there are further refinements to be made to ensure that our draft programme is effective, deliverable and meets the objectives of asset management.

- We coordinate with other transport priorities in the area, such as corporate priorities identified by the Executive, casualty reduction or cycle improvements to deliver multiple or coordinated schemes in the same location together (this is being moved to an earlier phase in the prioritisation process).
- We coordinate with utilities through HAUC to manage the disruption to road users.
- We ensure that our contractors are capable of delivering the programme, this is specifically important with an increase in the quantity of weather dependant work.

Reactive maintenance

While reducing the need for reactive works through proactive intervention, improvements are still being made to reactive processes. Materials, maintenance techniques and works management are all areas where improvements are being investigated. For example the use of Smart Gangs to carry out permanent pothole repairs on the first visit has been a change in approach that achieves the repair in a more efficient and long lasting way.

Asset management data

In addition to the extensive history of condition data used to identify, select and prioritise schemes we have a significant quantity of other data and are working to realise the potential of that data to support our asset management objectives.

- In addition to the commissioned condition surveys Area Officers carry out regular routine safety inspections on the network. The results of these inspections are recorded within our asset management database, including a history of maintenance activities.
- One of the main reasons for the public to contact us is to raise concerns about the condition of the highway. The records of these contacts and resulting actions contain a wealth of information which we can access. Whilst relying too heavily on this data can lead back to the historic worst first approach, carefully managed, the data can be used to verify and fine tune our prioritisation process.
- Our Pavement Management System (PMS) holds records of carriageway assets. This must be kept up to date with changes in the network and the off-carriageway footways and cycleways need to be added.

Highways laboratory

We have an in-house highways laboratory which manages site investigation coring and material testing. The capacity of the laboratory is being developed with accreditation for new tests achieved and further plans for greater integration into our core highway service. This will increase the quality control of new surfacing for others as well as our own works and technical knowledge readily available during all stages of scheme identification and implementation.

Review

This policy will be reviewed regularly in light of previous year outcomes, national funding and national policy changes.

Council documents can be made available in large print, audio, easy read and other formats. Documents on our website can also be emailed to you as plain text files. Help is also available for people who require council information in languages other than English.

For more information contact: 01934 888888 or see www.n-somerset.gov.uk